Department of Energy

Washington, DC 20585

May 15, 1997

MEMORANDUM FOR **HEADQUARTERS PRINCIPAL BUDGET CONTACTS**

FROM: **LYNWOOD H. HENDERSON, DIRECTOR OFFICE OF BUDGET**

SUBJECT: **FY 1999 Update to Corporate Review Budget Chapter of The DOE Budget Formulation Handbook**

Attached is the revised Corporate Review Budget (CRB) Chapter of the DOE Budget Formulation Handbook. Guidance contained in this chapter should be used to prepare your FY 1999 CRB materials. This reflects a continuation of our effort to streamline the budget process through use of the new budget formats used for the FY 1998 Congressional budget. A summary of changes from last year's guidance is provided to assist you in preparing this year's submission.

Budgets will be submitted to the Office of Chief Financial Officer by June 13, 1997. Corporate budget requests will be prepared in accordance with the attached CRB chapter and the FY 1999 CRB Call which will be issued shortly. The remaining chapters of the Budget Formulation Handbook will be updated and issued as we move through the FY 1999 budget process, and will incorporate lessons learned from our meeting with the EWD staff. The CRB Chapter is available on the DOE CFO Homepage in WordPerfect 6.1 and Acrobat PDF formats at http://www.cfo.doe.gov/budget.

We welcome any comments, suggestions or ideas you may have to make this a more useful document. Please direct any comments or questions you may have to Roy Craig on 202 586-3455 or David Bugg on 202-586-4715.

Attachments

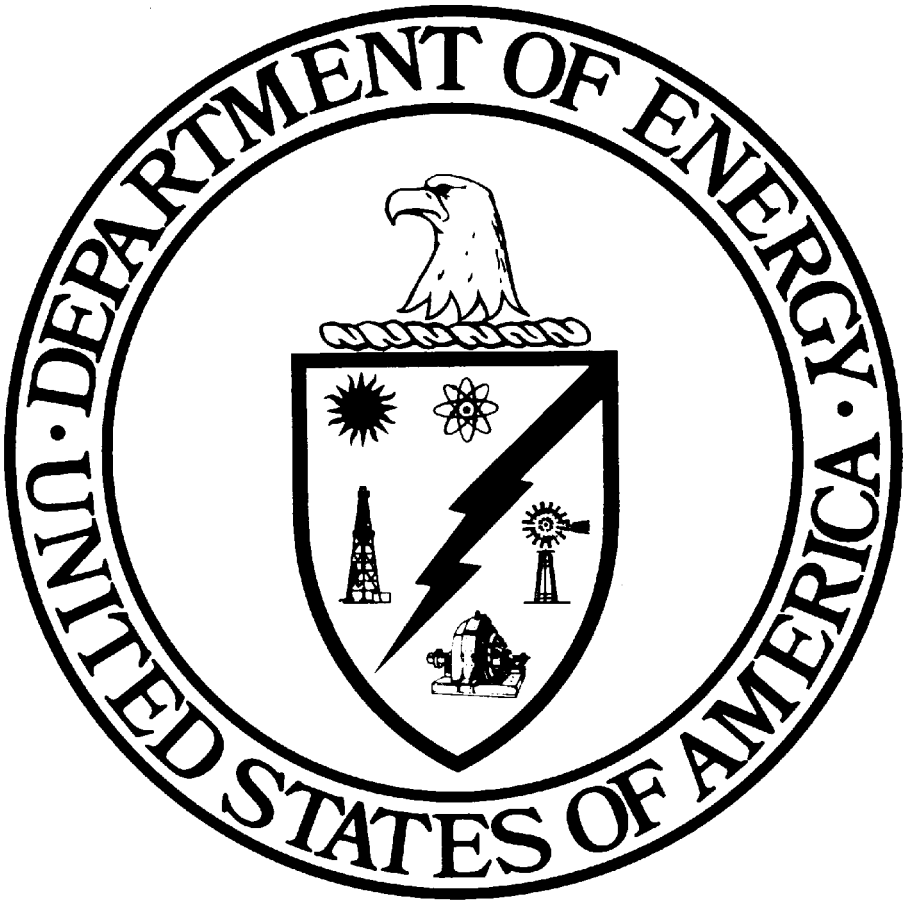
Summary of Changes
(Revised May 1997)

Page No.	
II-1.1	**Comparable Budget Submission**. Corporate budget requests will be submitted on a comparable basis.
II-3.14	**Program Funding by Site.** Program Funding by Site is suspended for the Corporate Review Budget Cycle.
II-3.16	**Summary of Changes.** Summary of Changes is suspended for the Corporate Review Budget Cycle.
II-3.19	**Program Performance Summary.** Program performance summary formats are consistent with the FY 1998 Congressional budget.
II-3.49	**Program Direction.** Program Direction formats are consistent with the FY 1998 Congressional budget. Programs should insure that the Detailed Support Services Table, and Detailed Other Related Expenses Table is completed. EWD staff has stated that no programs are exempt from reporting these data.
II-3.62	**Comparability Matrix.** A Comparability Matrix, which summarizes all approved transfers at the decision unit level of detail, is required for all structure changes.
II-3.64	**Project Data Sheets.** OMB requires all agencies to fully fund fixed asset acquisitions. To support this policy, all DOE program organizations shall request budget authority necessary to fully fund current and proposed construction projects in the budget year. Obligations in the budget year shall equal the amount of appropriations that would have been requested if the incremental funding policy were still in place. In addition, project data sheets will be submitted even if no funds are requested in FY 1999 for projects that will have obligations in FY 1999 or have projected FY 1997 end of year carryover balances of $10 million or higher. These data sheets will be necessary in the event that Congress does not fully fund projects submitted in the FY 1998 budget request and also to meet OMB A-11 fixed asset reporting requirements for projects with carryover balances of $10 million or more.

Summary of Changes
(Revised May 1997)

Page No.	
II-3.96	**Priority Ranking.** Without exception, all programs shall provide priority ranking schedules that provide a realistic assessment of programs budgeted from a level of 15 percent below target up to the target. This information is imperative in defending any further reductions which OMB may assign later in the process to the targets provided previously to the Department. The base level is defined as 85 percent of the organization's target amount for the FY 1999 budget year. Organizations must support their priority rankings with a narrative on a separate sheet of paper which describes the rational for the ranking. Programs requesting funds for activities that are above target (program planning level) should include this data in the ranking sheet and be identified clearly as "above target."
II-4.16	**Staffing Guidance and Requirements.** Organizations should comply with the updated staffing targets outlined in Figure II-4g.1.

DEPARTMENT OF ENERGY



BUDGET FORMULATION HANDBOOK
CHAPTER II, CORPORATE REVIEW BUDGET

OFFICE OF CHIEF FINANCIAL OFFICER

U.S. DEPARTMENT OF ENERGY
BUDGET FORMULATION HANDBOOK
CORPORATE REVIEW BUDGET CHAPTER

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POINT OF CONTACT MATRIX. Provided below are the names and telephone extensions of contacts who can provide assistance for each of the listed submission items.

CORPORATE REVIEW BUDGET SUBMISSION REQUIREMENTS	POINT OF CONTACT	
	NAME	PHONE
Primary Justification:		
Appropriation Language	Roy Craig	6-3455
Executive Budget Summary	Roy Craig	6-3455
Program Mission	Roy Craig	6-3455
Program Funding Profile	Roy Craig	6-3455
Program Funding by Site	Roy Craig	6-3455
Summary of Changes	Roy Craig	6-3455
Program Performance Summary	Roy Craig	6-3455
Program Direction	Roy Craig	6-3455
Capital Operating Expenses & Construction Summary	Roy Craig	6-3455
Project Data Sheets - Construction Project Number	Roy Craig Tom Knight	6-3455 6-4016
Priority Ranking	Roy Craig	6-3455
Summary Budget	Roy Craig	6-3455
Print Materials	Rusty Perrin	6-8414
Supplementary Requirements/Exhibits:		
Special PMA Exhibits	Andy Gray	6-4511
EIA Support Cost Estimates	Karen Elwell	6-2867
Facilities Summary (INT programs)	Robert Pafe	6-4026
Economic Regulatory Admin. Summary	Minh Agon	6-8490
Natural Gas Program Fossil Energy Energy Efficiency and Renewable Energy Energy Research	 Chuck Roy Fred Glatstein Ralph DeLorenzo	 6-8977 6-9262 3-3541
Estimates of Proprietary Receipts	Rusty Perrin	6-8414

POINT OF CONTACT MATRIX (Cont'd)

CORPORATE REVIEW BUDGET SUBMISSION REQUIREMENTS	POINT OF CONTACT	
	NAME	PHONE
Staffing Guidance and Requirements	Tom Wheeler/	6-3276/
Historically Black Colleges	Annie Whatley	6-0281
Administrative Support Costs	Minh Agon	6-8490
Carryover Balances	Rick Sweeney	3-2551
Naval Petroleum & Oil Shale Reserve Production/Revenue Report	Sherry Reid	6-4202
Secretary's Reportable Problems Under FMFIA	Lynn Harshman	3-2556
Planning, Budgeting and Acquisition of Fixed Assets	Roy Craig/ Peter Devlin	6-3455/ 6-4905
Cost-Benefit Certification Requested for New Construction	Richard Mizell	6-3502
Crosscut Documents: Environment, Safety & Health	Ray Blowitski	3-9878
Safeguards and Security	Karen Stewart Alice King	3-9934 3-8782
Information Management	Gary Crowl	6-2233
Performance Plans	William Kennedy	6-0423

CHAPTER II

CORPORATE REVIEW BUDGET

1. **INTRODUCTION**.

a. Overview. The purpose of this chapter is to outline and describe the requirements and procedures for the preparation and submission of the Department of Energy (DOE) budget for the Corporate Review Budget. Additional guidance on the Corporate Review Budget process (i.e., roles and responsibilities, funding responsibilities, DOE policy, etc.) is provided in DOE Order 130.1, BUDGET FORMULATION PROCESS.

b. Background.

(1) **Budget Cycle**. The Corporate Review Budget request follows the budget formulation cycle which began in early January with the issuance of the Field Budget Call providing guidance on the preparation of the Field budgets. Typically, the Corporate Review Budget process begins in May after receipt of Field budgets.

(2) **Comparable Budget Submissions**. Corporate Review Budget requests will be submitted on a comparable basis.

(3) **Moratorium on Structure Changes**. The Corporate and OMB budget requests will be submitted on a comparable basis. However, there is a continuing moratorium on program budget structure changes. Both of the Energy and Water subcommittees have expressed their dissatisfaction with continuing structure changes in the Department's justifications. They have therefore directed that the Department's Congressional budget be submitted on a non-comparable basis. They have indicated that they can foresee that, under very limited circumstances, it may be necessary to make some changes. These will only be permitted if submitted by the Office of Budget and approved by the subcommittee staff in advance. Otherwise, they have said they would return budgets with structure changes to the Department for rewrite. Approved structure changes will require a completed comparability matrix.

c. Key Concepts.

(1) **Presentation of the Budget**. Detailed instructions for the preparation of justification materials, to the extent they are standardized, are provided in

paragraphs 3 through 5 of this chapter. Minor changes will be discussed in the annual Corporate Review Budget Call issued by the Office of Budget.

(2) **Controls - Dollars and FTEs**. All dollar amounts and staffing levels shown in Corporate Review Budget budget materials must agree with guidance issued by the Secretary

(a) **Dollars**. The Office of Budget will issue a Control Table which reflects these the funding guidance of the Secretary. All budget material must tie to these amounts; any budget materials inconsistent with these amounts will be returned immediately for correction. Programs with questions or problems with the Control Table should immediately notify the Budget Formulation Team (CR-13).

(b) **FTEs**. The Staffing Management Branch (HR-61) has included a staffing table showing Corporate Review Budget budget staffing allowances at Figure II-4h.1. Programs with questions or problems with staffing level control numbers should immediately notify HR-61. Detailed staffing guidance and reporting requirements are provided in subparagraph II-4.h.

(3) **Economic Assumptions**. Budget estimates should reflect the appropriate economic assumptions. Escalation rates for operating expenses, pay and related benefits, etc., will be provided in the annual Corporate Review Budget Call.

(4) **Budget Structure**. The budget structure contained in the Corporate Review Budget Call represents the minimum level of detail to which the budget justification shall be written. The structure and level of detail is initially set out by the appropriation subcommittees in FYCY and is used through the Corporate Review Budget, OMB, and Congressional FYBY budget processes. Programs will not deviate from the structure provided by the subcommittees.

(5) **National Defense Activities Two-Year Budget**. For even numbered budget years, all DOE National Security (053) organizational elements need to submit a two-year Corporate Review Budget. Currently no other DOE programs are required to develop or submit biennial budgets. Questions concerning biennial budgets should be directed to the Defense Team (CR-14) of the Budget Analysis Division, Office of Budget.

(6) **Submission Requirements**. The due date and required number of copies of the Corporate Review Budget submissions will be specified in the Call letter.

(7) **Typing Guidelines**. The formats and typing instructions for preparing and submitting Corporate Review Budget materials are provided in Figure II-1c. Since there are more than 25 separate program organizations within DOE that prepare budget submissions, it is imperative that this guidance is strictly followed to ensure uniform budget requests.

DEPARTMENT OF ENERGY
FY 19BY CORPORATE REVIEW BUDGET

TYPING GUIDELINES

To ensure consistency, all primary budget justifications should be submitted on 8 1/2 x 11 inch paper with information typed horizontally on the page (landscape). All material should be typed using an Arrus BT 10 point, Times New Roman 12 point font, or similar proportional font of similar size. Questions concerning typing should be directed to the Office of Budget, Budget Formulation Team, 586-4016.

Printing the budget on 8 1/2 x 11 inch paper requires that material be presented within prescribed margins. The minimum margins for 8 1/2 x 11 inch paper are 1/2 inch sides, 3/4 inch top and 1 inch bottom margin. Material that exceeds these margin allowances will be returned for correction. Remember, correcting one page could involve redoing succeeding pages.

Figure II-1
Typing Guidance

2. JUSTIFICATION DOCUMENTS

a. The Department's Corporate Review Budget justification materials are provided in a manner that will ultimately be best suited to meet the needs of the respective appropriation subcommittees. While most of these materials remain static from year to year, some minor changes may take place as the committees alter their requirements. These revised requirements are identified during meetings held between Office of Budget and appropriation's committee staff. Where changes identified at these meetings are of a continuing nature, revisions will be made to the appropriate chapters in the Budget Formulation Handbook.

b. There are three types/groupings of justification documents discussed in this chapter:

(1) **Primary Justification Materials**. These documents are the detailed justifications that support the program's request for funding. This material constitutes the pages that are consolidated into the Department's OMB Budget Request. In addition, the Department submits a Classified Addendum which is a separate budget document for the National Security related programs.

(2) **Supplemental Justification Materials**. These are additional and backup data that are prepared at the specific request of the OMB and/or the two cognizant subcommittees. This section of the chapter only describes the supplemental materials that are prepared on a recurring basis.

(3) **Crosscut Documents**. These are analyses that are prepared to consolidate related functions that are funded within the Department in several different organizations.

3. **PRIMARY JUSTIFICATIONS**. This section provides guidance and sample formats to be followed in the preparation of primary budget justification materials that will be included in the Department's FYBY Corporate Review Budget request.

a. Appropriation Language is not required for Corporate Review Budget submission.

b. Executive Budget Summary. House Report 104-149 of June 20, 1995, accompanying the FY 1996 Energy and Water Development Appropriations Bill states, "Program budget justifications consistently fail to place activities in the context of how they achieve major program goals and objectives, and how they relate to other Departmental program objectives and activities. Each Assistant Secretary and program director is responsible for preparation of the budget documents submitted to Congress. Attention should be given to making the best possible case for programs in the initial budget submission rather than waiting until preparation of testimony for Congressional budget hearings is required before trying to articulate a cohesive program strategy."

To address the Committee's concerns, every major program organization is required to develop and submit an Executive Budget Summary along with their primary budget materials. This summary document should integrate key budget information contained in each of the major program element mission statements to present a comprehensive strategy. This means that **all** budget activities funded under various programs in different appropriation accounts (and, in the case of EE, different appropriations subcommittees) must be tied together to support the organization's major goals and objectives. While organizations are being given flexibility in the presentation of this information, it must cover the following areas:

- Organization's major goals and objectives, including Presidential and crosscutting initiatives.
- Program composition/major elements (crossing multiple programs, appropriations and subcommittees, as applicable).
- Comprehensive strategy for achieving stated goals and objectives, including associated milestones and a baseline beginning in FY96.
- Major drivers such as legal requirements, Executive Orders, Presidential initiatives, etc.
- Federal staffing and associated funding requirements.
- Contractor Employment by major program activity and site.
- Several key program performance measures that support DOE's Strategic Plan, Annual Performance Plan, and Performance Agreement with the President.
- Major program changes from the FYCY to the FYBY.
- Graphic displays of funding trends and comparisons associated with sub-programs, FTEs (HQ & field splits), sites etc. Pictures should not be used if copies are not clear.
- Major issues, concerns, sensitivities, if applicable, including affected stakeholders, geographic locations.

The narrative portion of the Executive Budget Summary should be approximately four to five pages in length and signed by the cognizant Assistant Secretary or Program Office Director. Programs are to include tables, charts or graphs, especially those that Subcommittee members found particularly useful during last year's Congressional testimony. Programs are reminded to describe tabular dollars in thousands and narrative dollars in whole dollars. It is intended that the Executive Budget Summary be used by Assistant Secretaries and Program Office Directors during their Congressional hearings. A sample format is shown in Figure II-3a.

Sample Format

DEPARTMENT OF ENERGY
FY 19BY CORPORATE REVIEW BUDGET SUBMISSION
PROGRAM ORGANIZATION

EXECUTIVE BUDGET SUMMARY

Mission

Describe the organization's mission and how it supports the Department's Strategic Plan. What are its major goals and objectives, including Presidential and crosscutting initiatives. Integrate the goals and objectives of all major programs funded by the organization. This includes major programs funded under different appropriation accounts (and, in the case of EE, different appropriations subcommittees). Also, state if there are any legal requirements or Executive Orders associated with the organization's mission?

Strategy

What is the strategy for accomplishing the mission? What are the major program elements and crossing-cutting programs supported by the organization that contribute to accomplishing the stated mission? Provide tables and/or charts that display the organization's funding for FYPY through FYBY by major program, appropriation account, and subcommittee, as applicable. Also, provide a table that reflects FYPY through FYBY funding, by major program element and sub-program, for the following cross-cutting areas:

- Global Climate Change
- Climate Change Action Plan
- Partnership for New Generation of Vehicles
- American Textiles Partnership
- American Computation and Technology Initiative
- Pollution Prevention
- Former Soviet Union
- Science and Education Programs
- Technology Transfer

Describe, by major program, significant accomplishments in FYPY, and planned accomplishments for FYCY.. and FYBY that have or will support the organization's mission.

Figure II-3a
Executive Summary, EWD - Sample Format

Major Changes

Describe major changes occurring within the organization. Are there new starts, program terminations, ramp-downs or programmatic shifts within the organization? Are the changes due to Congressional direction, Administration policy changes, Executive Orders, or new legal requirements? Provide graphs or tables that display funding changes described above.

Major Issues

Describe budget issues, concerns or sensitivities that may significantly impact program activities, stakeholders, geographic regions, or future program costs.

Site Funding and Federal & Contracting Staffing Profiles

Provide tables and graphs that reflect site and staffing funding trends and comparisons by program. At a minimum, include:

- Total organizational funding by major program element and fiscal year
- Total organizational funding by site and major program element
- Federal staffing at HQ & field sites by major program element
- Contractor employment by major program element and site

Performance Measures

Describe several key program performance measures that tie to DOE's Strategic Plan, the Secretary's Performance Agreement with the President, and the Budget Highlights.

Signature of the Assistant Secretary _____ Date_____

Figure II-3a
Executive Summary, EWD - Sample Format

c. Program Mission (previously titled Program Overview). This schedule is required for each major program element. It links the program's general goals and objectives to the Department's Strategic Planand the Annual Performance Plan, and provides a framework for grouping more detailed information into subordinate Program Performance Summaries. It should answer the following key questions:

(1) What is the overall mission or main purpose of the program? How does it support the Department's Strategic Plan? Is the mission statutorily mandated? How does it benefit the American public?

(2) What is the strategy for accomplishing the mission? What are the long range goals and objectives? What is the future direction of the program? Are there any new initiatives, program shifts or ramp downs? What are the primary drivers of change from the CY to the BY?

(3) List several key performance measures for the program. These measures should be broad enough to apply to all three fiscal years. Meaningful annual performance measures may also be reported at this level. For instance, does the program have major milestones? Is it on schedule? If not, why? What does the program expect to accomplish with the funding requested in the budget year? What was accomplished in the prior year? What is being accomplished in the current year, and how do all of these tie together to support the program mission? A few good measures that capture the essence of the program and its administration are much more useful than extensive displays of second- and third- order measures which tend to delve into operational minutiae.

(4) A sample format is shown in Figure II-3b.

Sample Format

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
(ORGANIZATION 's NAME)
ENERGY SUPPLY, RESEARCH AND DEVELOPMENT
(Tabular dollars in thousands, Narrative in whole dollars)

BIOLOGICAL AND ENVIRONMENTAL RESEARCH

PROGRAM MISSION

The Biological and Environmental Research Program (BER) provides fundamental science to underpin the five business thrusts of the Department's strategic plan. The information developed by this program will increase the understanding of and, technological solutions to major problems in biology, medicine, and the environment. Through its support of peer-reviewed research at national laboratories, universities, and private institutions, the program develops the knowledge needed to identify, understand, and anticipate the long-term health and environmental consequences of energy use and development.

The GOAL of the BER program is to:

Develop information, advanced technologies, and technological tools for identification, characterization, and mitigation of adverse health or environmental consequences of energy production, development, and use.

The OBJECTIVES related to these goals are:

1. To CONTRIBUTE TO A HEALTHY CITIZENRY - Map the fine structure of the human genome by the year 2005; conduct fundamental research necessary for the development of advanced medical technologies and radiopharmaceuticals; and use the unique National Laboratory facilities to determine biological structure and function at the molecular and cellular level.

Figure II-3b
Program Mission

Sample Format

PROGRAM MISSION - BIOLOGICAL AND ENVIRONMENTAL RESEARCH (Cont'd)

2. To CONTRIBUTE TO CLEAN UP OF THE ENVIRONMENT - Conduct fundamental research necessary for the development of economical and efficient advanced remediation tools and risk assessment methodologies for containing wastes and cleaning up DOE's contaminated sites, particularly in support of EM's mission.

3. To UNDERSTAND GLOBAL ENVIRONMENTAL CHANGE - Develop the data and understanding necessary to predict the potential contribution and consequences of energy use and production on the global environment.

PERFORMANCE MEASURES:

Performance measures related to basic science activities are primarily qualitative rather than quantitative. The quality of the BER program is continuously evaluated through the peer-review process which includes: review panels comprised of outside experts, advisory committees, site visits, and review conducted by the Energy Research Office of Program Analysis. Some quantitative performance measures:

1. Percent of the structure of the human genome mapped.

2. Number of advanced medical technologies and radiopharmaceuticals developed and put into general use.

3. Number of advanced remediation tools (e.g., bioremediation) and risk assessment methodologies developed and employed to contain hazardous waste and clean up DOE contaminated sites.

4. Number of generally accepted and routinely operated predictive models of the effects of energy use on the global environment.

SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS:

- The program has developed new measurement technologies (e.g., chemical and biological sensors) in the Analytical Technology sub program to enhance research carried out in BER activities, notably, environmental and health sciences research.

Figure II-3b
Program Mission

Sample Format

PROGRAM MISSION - BIOLOGICAL AND ENVIRONMENTAL RESEARCH (Cont'd)

- New strategies for cleanup, e.g., use of new biological and biotechnological tools (e.g., microbes that breakdown contaminants) have been developed for stubborn remediation problems.

- Advancement has been made in technologies to understand and mitigate the potential health effects from energy activities and cleanup operations. Emphasis is placed on the risks to human health from exposures to low-levels of radiation and chemicals both at home (e.g., radon) and at work (e.g., waste site cleanup).

- Critical information has been developed regarding the molecular nature of the human genome and genomes of other organisms, and exploration is ongoing in the basic chemical structures of important biological molecules relates to their function in living cells. These continued advances are central to understanding health effects and human disease-susceptibility and for applications of biotechnology to the Department's missions.

- Predictive tools are being enhanced year by year to quantify global environmental changes, particularly in carbon dioxide research, induced by human activities, including energy production and use. Emphasis is continuing on the role of clouds in climate and on developing advanced climate models using the world's most advanced computers.

- New nuclear medicine technologies and radiopharmaceuticals to improve medical diagnosis and therapy have been developed contributing to improved health care delivery while reducing costs by achieving early diagnosis and treatment.

- Research in the area of indoor air quality related to radon exposure has been concluded.

Figure II-3b
Program Mission

d. Program Funding Profile. For the Corporate Review Budget request Departmental organizations should prepare the Program Funding Profile(s). As a reminder, the format of this table will depend upon whose jurisdiction the program's appropriation falls (i.e., Energy and Water or Interior and Related Agencies).

(1) For appropriations under the jurisdiction of the Energy and Water Development subcommittee, the Program Funding Profile should be developed to show as a minimum of five columns, FYPY Comparable Appropriation, FYCY Budget Request, FYCY House Mark, FYCY Senate Mark, and FYBY Requested Appropriation. If a conference committee report is available provide an FYCY Conference Committee column and do not include columns for House and Senate marks. Similarly, if the FYCY is a Budget Request, provide the FYCY Budget Request column and do not include the FYCY Conference Committee column report (See Figure II-3d.1).

(a) **FYPY Comparable Appropriation**. Reflects final enacted appropriations including reprogrammings, supplementals, rescissions, general reductions.

(b) **FYCY Budget Request**. Reflects the CY Congressional request or if enacted, the amount provided in the appropriate Congressional enacted provided in the appropriate Congressional conferences reports.

(c) **FYCY House Mark.** Reflects the house mark if not enacted, or the latest action of the committee on appropriations, or subcommittee on action.

(d) **FYCY Senate Mark.** Reflects the Senate mark if not enacted, or the latest action of the committee on appropriations, or subcommittee on action.

(e) **FYCY Conference Committee Report.** Reflects the conference committee report if appropriation not enacted.

(f) **FYCY Current Appropriation.** Reflects the final enacted appropriations including reprogrammings, supplementals, rescissions, general reductions.

(g) **FYBY Request**. Reflects total amount requested by the program including FYBY impact of pending FYCY supplementals.

(h) **FYBY+1 Request**. In even numbered Budget Years, activities funded by the National Security budget function (053) will provide one outyear (BY+1).

(2) For appropriations under the jurisdiction of the Interior and Related Agencies Committee, the Program Funding Profile should be prepared on a comparable basis (i.e., the stub column should list FYBY structure activities only). This table should include six columns as follows: (See Figure II-3d.2)

(a) **FYPY Comparable**. Reflects final adjusted appropriations including reprogrammings, enacted supplementals, etc. made comparable to the FYBY structure. Where necessary, two footnotes will be used: one to identify approved adjustments; and another to identify comparability between the BY structure and the PY Enacted structure.

(b) **FYCY**. Reflects amounts contained in the CY appropriation request made comparable to the BY structure. Where necessary, two footnotes will be used: one to identify approved adjustments; and another to identify comparability between the BY structure and the CY requested structure.

(c) **FYBY Base**. Base amounts are the FYCY requested plus any anticipated non-discretionary increases that will have to be funded in FYBY. The majority of non-discretionary items will relate to staffing and supporting activities. Increases or decreases shown here will generally include the following:

1 Increases to basic Federal Telecommunications Systems (FTS) and Standard Level User Charge (SLUC/rent) costs.

2 Adjustment for increase or decrease in the total number of compensable days. **For example**: FYCY and FYBY may contain 261 compensable days including paid holidays while FYPY may only contain 260.

3 Estimated statutory pay cost increases. Do not reflect anticipated promotions. (See economic assumptions in Attachment D of Corporate Review Budget Call)

4 Annualization of FTEs filled during FYCY. For example, new FTEs included in the FYCY budget request would have only partial funding considering the lapse rate for the delay in filling vacancies. The personnel costs for these FTEs must be annualized in the FYBY. Therefore, the difference between full year funding and current year funding would be considered a mandatory increase. Annualized items do not include commitments, phase funded construction, or items which have been authorized by law but not funded in previous years.

(d) **FYBY Request**. Reflects total amount requested in the Corporate Review Budget including FYBY impact of pending FYCY supplementals. A footnote, describing any comparability that exists between the BY structure and the PY and/or CY structures, shall be applied to the amount in the BY column and to the amount in the other FY(s) as appropriate.

(e) **Program Change - Request vs. Base**. A two-column listing of the BY program change versus the BY Base is required. Both the dollar change and the percent change must be shown. The dollar change must be calculated as BY Request minus BY Base. The percent change must be calculated as the dollar change divided by the BY Base multiplied by 100. The appropriate sign (+ or -) should be used also.

(f) **Staffing (FTEs).** The number of Full Time Equivalent Federal employees funded in each year of the Program Funding Profile must be shown by Headquarters and Field after the total section.

(3) The following standard instructions should be followed for both the Energy and Water Development and the Interior and Related Agencies Appropriations:

(a) **Adjustment Line**. Adjustments such as spreads of general reductions or use of prior year balances should be placed after the Program Funding Profile subtotal and included in the Program Funding Profile total. Each entry in the Adjustment Line must have a footnote fully explaining the adjustment.

(b) **Authorizations**. Public Law Authorizations must be shown.

(c) **Footnotes**. All footnotes indicated on the Program Funding Profile should be gathered and listed alphabetically after the Authorizations. The order of footnotes should be left to right and top to bottom.

BIOLOGICAL AND ENVIRONMENTAL RESEARCH
PROGRAM FUNDING PROFILE
(Dollars in thousands)

Sub-program	FYPY Comparable Appropriation	FYCY Budget Request	FYCY House Mark /*	FYCY Senate Mark /*	FYBY Budget Request
Analytical Technology	$ 8,706	$ 8,880	$ 8,880	$ 8,880	$8,880
Environmental Research	44,400	50,100	45,354	49,100	35,300
Health Effects	35,521	30,792	17,895	20,792	28,332
General Life Sciences	107,664	112,575	88,391	92,575	111,052
Medical Applications	47,732	38,900	33,172	25,900	38,900
Carbon Dioxide Research	86,848	88,400	78,400	88,400	88,400
Program Direction	7,500	7,600	7,600	7,600	7,600
Facilities Operations	30,670	31,822	23,810	18,822	35,805
Subtotal, Operations & Maintenance	$ 369,041	$ 369,069	$ 303,502	$ 312,069	$ 354,269
Construction	67,200	62,595	45,480	48,595	36,113
Subtotal, BER	$ 436,241	$ 431,664	$ 348,982	$ 360,664	$ 390,382
Adjustment	-5,401a/	-1,000 b/		0	0
TOTAL, BER	$ 430,840	$ 430,664	$ 348,982	$ 360,664	$ 390,382

a/ Use of prior years unobligated balances ($5,401).
b/ General reduction distributed to Environmental Research sub-program.
Public Law Authorizations:
Pub. Law 95-95, DOE Organization Act.
*Identify the action by inserting “Approp. Cmte.” or “Approp. Subcmte.” in this column header.

Figure II-3d.1
Program Funding Profile, EWD

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
ENERGY CONSERVATION
(Dollars in thousands)

PROGRAM FUNDING PROFILE

Industry Sector

Activity	FY PYxx Comparable	FY CYxx Request	FY BYxx Base	FY BYxx Request	Program Change Request vs. Base Dollar	Program Change Request vs. Base Percent
Energy Systems						
Operating Expenses	$ 27,544	$ 29,893	$ 29,893	$ 44,630	$+14,737	+49%
Waste Minimization						
Operating Expenses	$ 20,235	$ 25,992	$ 25,992	$ 33,592	$ +7,600	+29%
Process Efficiency						
Operating Expenses	$ 50,794	$ 53,842	$ 53,842	$ 72,253	$+18,411	+34%
Implementation and Deployment						
Operating Expenses	$ 4,462	$ 7,010	$ 7,010	$ 20,361	$+13,351	+190%
Management and Planning						
Operating Expenses	$ 5,890	$ 6,678	$ 6,678	$ 7,244	$ +566	+8%
Management - Capital Equipment						
Capital Equipment	$ 2,776	$ 1,631	$ 1,631	$ 2,588	$ +957	+59%
TOTAL	$ 111,701	$ 125,046	$ 125,046	$ 180,668	$+55,622	+44%
Summary						
Operating Expenses	$ 108,925	$ 123,415	$ 123,415	$ 178,080	$+54,665	+44%
Capital Equipment	2,776	1,631	1,631	2,588	+957	+59%
Total Program	$ 111,701	$ 125,046	$ 125,046	$ 180,668	$+55,622	+44%
Staffing (FTEs)						
HQ FTEs	3	4	4	4		
Field FTEs	53	73	73	73		
Total FTEs	56	77	77	77		

Authorizations:
P.L. 102-486, “Energy Policy Act of 1992”

Figure II-3d.2
Program Funding Profile, INT

e. Program Funding By Site. The Program Funding by Site schedule (Figure II-3e) is required only for programs that are funded by the Energy and Water Development Appropriations Subcommittee. This report displays funding by operations office, laboratory and other major facilities at the program level, and has the same columns as the Program Funding Profile. The column totals must equal the totals of the Program Funding Profile. **(Note: Program Funding by Site is suspended for the Corporate Review Budget Cycle)**.

BIOLOGICAL AND ENVIRONMENTAL RESEARCH
(Dollars in thousands)

PROGRAM FUNDING BY SITE

Field Offices/Sites	FYPY Comparable Appropriation	FY CY Budget Request	FY CY House /* Mark	FY CY Senate /* Mark	FYBY Budget Request
Albuquerque Operations Office					
Los Alamos National Laboratory	$ 19,187	$ 17,539	$ 13,539	$ 14,539	$ 15,860
Chicago Operations Office					
Argonne National Lab (East)	35,718	35,077	29,977	30,977	31,720
Brookhaven National Lab	89,682	86,092	74,852	75,852	77,853
Environmental Measurements Lab	27,656	26,709	19,639	20,639	24,153
Idaho Operations Office					
Idaho National Engineering Lab	9,225	10,210	7,210	8,210	9,235
Oakland Operations Office					
Lawrence Berkeley Lab	19,965	20,321	14,321	15,321	18,377
Lawrence Livermore National Lab	8,458	4,606	2,606	3,606	4,165
Oak Ridge Operations Office					
Oak Ridge Institute for Science & Education	1,036	1,002	0	0	906
Oak Ridge National Lab	38,662	47,151	39,051	40,051	42,638
Richland Operations Office					
Pacific National Northwest Lab	182,784	176,127	143,780	146,462	159,275
Savannah River Operations Office					
Savannah River Technology Center	3,068	6,007	4,007	5,007	5,432
All Other Sites	800	823	0	0	768
Subtotal	$ 436,241	$ 431,664	$ 348,982	$ 360,664	$ 390,382
Adjustment	-5,401a/	-1,000 b/	0	0	0
TOTAL	$ 430,840	$ 430,664	$ 348,982	$ 360,664	$ 390,382

a/ Use of prior years unobligated balances.
b/ General reduction distributed to Environmental Research sub-program.
*Identify the action by inserting “Approp. Cmte.” or “Approp. Subcmte.” in this column header.

Figure II-3e
Program Funding by Site

f. Summary of Changes. The Summary of Changes schedule is required only from programs funded under the Interior and Related Agencies Appropriations Subcommittee. It follows each Program Funding Profile in the justification material and has amounts consistent with those contained in the Program Funding Profile. **(Note: the Summary of Changes is suspended for the Corporate Review Budget Cycle).**

(1) The information presented on this exhibit includes the CY Request, a summary explanation of the non-discretionary changes to the CY that comprise the BY Base, and details of major increases and decreases from the BY Base that are proposed in the BY request. FYBY base adjustments will be included in this exhibit. These amounts should be in agreement with FYBY Base amounts shown on the Program Funding Profile. See the sample format shown in Figure II-3f.

(2) The stub should be constructed in such a way that the explanation of changes will be grouped by Decision Unit and provided for each Key Activity that has a non-zero difference between the CY and the BY Request. Totals must agree with the Program Funding Profile totals. Narrative explanations should succinctly describe changes. Offsetting increases or decreases within individual Key Activity elements should be included in any explanation that is aggregated at the Key Activity level. A more complete discussion of the changes should be provided in the Program Performance Summary narrative justification.

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
ENERGY CONSERVATION
(dollars in thousands)

SUMMARY OF CHANGES

Industry Sector
(Only programs funded under the Interior and Related Agencies Appropriations Subcommittee)

FYCY Comparable	$ 125,046
- Non-Discretionary -	0
FY BYxx Base	$ 125,046
Energy Systems	
- Advanced Topping Cycles - Descriptive text for the increase or decrease appears here	+11,092
- Continuous Fiber Ceramic Composites - Descriptive text for the increase or decrease appears here	-1,964
- Electric Drives - Descriptive text for the increase or decrease appears here	+6,451
- Combustion Processes - Descriptive text for the increase or decrease appears here	-130
- Industrial Combustion Equipment - Descriptive text for the increase or decrease appears here	-118
- Heat Pumps - Descriptive text for the increase or decrease appears here	-107
- Recuperators - Descriptive text for the increase or decrease appears here	+7
- Thermal Science - Descriptive text for the increase or decrease appears here	-494
Waste Minimization	
- Waste Reduction - Descriptive text for the increase or decrease appears here	+7,000
- Waste Utilization and Conversion - Descriptive text for the increase or decrease appears here	+782
- Municipal Solid Waste Combustion - Descriptive text for the increase or decrease appears here	+1,324

Figure II-3f
Summary of Changes, INT
Page 1 of 2 Pages

SUMMARY OF CHANGES - Industry Sector (Cont'd)

- MSW Data Collection and Analysis - Descriptive text for the increase or decrease appears here	-336
Process Efficiency	
- Metals Initiative - Descriptive text for the increase or decrease appears here	+2,557
- Process Electrolysis - Descriptive text for the increase or decrease appears here	+972
- Foundries and Glass - Descriptive text for the increase or decrease appears here	+8,886
- Advanced Materials - Descriptive text for the increase or decrease appears here	+3,179
- Alternative Feedstocks - Descriptive text for the increase or decrease appears here	+3,895
- Bioprocessing - Descriptive text for the increase or decrease appears here	-1,036
- Process Development - Descriptive text for the increase or decrease appears here	-133
- Pulp and Paper - Descriptive text for the increase or decrease appears here	+255
- Food, Textiles, and Agriculture - Descriptive text for the increase or decrease appears here	-164
Implementation and Deployment	
- Implementation and Deployment - Descriptive text for the increase or decrease appears here	+13,351
Management and Planning	
- Evaluation, Planning and Analysis - Descriptive text for the increase or decrease appears here	-19
- Program Direction - Descriptive text for the increase or decrease appears here	-585
Management - Capital Equipment	
- Capital Equipment - Energy Systems - Descriptive text for the increase or decrease appears here	+277
- Capital Equipment - Waste Minimization - Descriptive text for the increase or decrease appears here	-61
- Capital Equipment - Process Efficiency - Descriptive text for the increase or decrease appears here	+741
FYBY Corporate Review Budget -	$ 180,668

Figure II-3f
Summary of Changes, INT
Page 2 of 2 Pages

g. Program Performance Summary. This schedule is the primary budget document used to describe and justify program activities. It is prepared for each component or sub-program of the major program element. **The information provided at this level should be primarily quantitative in nature.** The narrative information that is provided should focus on what is being accomplished **at the sub-program level** with the funding requested/previously appropriated.

(1) Organizations funded under the Energy and Water Development Appropriations Subcommittee shall prepare the Program Performance Summary according to the guidance provided below (see Figure II-3g.1):

(a) **Section I - Mission Supporting Goals & Objectives**. This section of the Program Performance Summary shall concisely describe the main purpose of the sub-program and the key goals and objectives that support the mission of the major program element. Base program and any lower program elements (key activities) should also be described in this section to avoid rejustifying them each fiscal year. New starts, completions, terminations, and key accomplishments (both past and planned) of the sub-program and any subordinate elements should be described in Section III "Performance Summary" by fiscal year.

(b) **Section II - Funding Schedule**. This table reports the sub-program's funding by its subordinate elements (key activities) by fiscal year (PY, CY, BY). In addition, the table includes two columns that provide the dollar and percent change from the CY to the BY.

(c) **Section III - Performance Summary**.

1 *Accomplishments*. This section of the Program Performance Summary should provide narrative descriptions of past, current and planned activities and accomplishments by key activity and include the associated funding for each of the three fiscal years (PY, CY, BY). The purpose of this section is to convey what the funding is to be used for and why it is important. Narrative descriptions should be pithy, and technical terms ("DOEese") should be avoided. Activities and accomplishments should be described in quantifiable terms, to the extent possible. New starts, major initiatives, and items of Congressional interest should be described separately.

The funding associated with the activities and accomplishments should be displayed to the right of the narrative descriptions by fiscal year and equal the amounts presented in the funding table provided in Section II above. See Figure II-3g.1.

2 *Explanation of Funding Changes from FYCY to FYBY*. This section of the Program Performance Summary should explain the change in funding by key activity from CY to BY. Why is there a change in funding? Does an increase reflect a work scope change, a new start, changes in cost of materials or labor, or new regulatory requirements? Does a funding decrease reflect a completed project, or shift in program priorities? Any funding change should be described clearly and succinctly.

A tabular display of the funding change should also be provided to the right of each narrative explanation. The total change in funding from CY to BY presented in this column must tie back to the total funding change presented in the funding schedule provided in Section II above. **Net changes of zero dollars ($0) should be broken out by subordinate activity**.

3 *Major Issues*. This section should be included when there are significant issues, concerns or sensitivities related to the sub-program. Potential program impacts should also be described to the extent possible. Examples include pending litigation and international or public/private partnerships.

(2) Organizations funded under the Interior and Related Agencies Appropriations Subcommittee should prepare the Program Performance Summary according to the guidance provided below (see Figure II-3g.2).

(a) **Section I: Mission Supporting Goals & Objectives**. Each Program Performance Summary must begin with a Mission Supporting Goals & Objectives Statement. This statement is intended to introduce the reader to the ensuing group(s) of Key Activities. Performance goals and objectives should be included for each major program activity. Key performance indicators in terms of outputs and outcomes should also be included to support the performance indicators outlined in the Program Mission. Detailed information about specific activities should be presented later in the Performance Summary. The use of acronyms and detailed technical explanations or statements should be avoided to facilitate the reader's comprehension of the Key Activities.

(b) **Section II.A.: Funding Table**. The Funding Table follows the Mission Supporting Goals & Objectives. This table will provide additional detail supporting the Program Funding Profile. The stubs in the Funding Table should be the Key Activity element titles presented in the Performance Summary section (Part III) and should be, at a minimum, the level of

detail indicated by the budget structure attached to the FYBY Corprate call. Groups of Key Activities should have totals as appropriate.

1 *FYPY*. Reflects final Comparable appropriations including supplementals, rescissions, reprogrammings, general reductions on a comparable basis.

2 *FYCY*. Contains the original CY appropriation plus any real or comparable adjustments such as reprogrammings, rescissions, general reductions, restructures, or reorganizations.

3 *FYBY*. Contains the BY request amount.

4 *% Change*. The percent change of the BY from the CY is computed by the formula: % Change = [(BY - CY)/CY] x 100. If the CY is zero (0) or the computation yields greater than 999 percent, the entry is: >999.

(c) **Section II.B.: Laboratory and Facility Funding**. All programs that perform work at national laboratories or major DOE facilities should include this table in the Program Performance Summary. For programs that are currently unable to breakout the total amount by site, the "All Other" line should be used to ensure the total mount is reflected. Congressional staff requested this table to track program funding at all laboratories and facilities. If this table appears on the same page as the Funding Table, the column headings are not repeated. The identical headings to the Funding Table are provided if this table appears on a new page. The data entered follow the same rules as the Funding Table. Use of BARRS to enter complete PFCLS data will allow automatic creation of this table.

(d) **Section III: Performance Summary**. The format of this section parallels the Funding Table. The identical headings to the Funding Table are provided with the exception of the % Change column. These descriptions serve as the primary justification for individual program components. Care should be taken in describing the three years of budget activity in precise terms. Narrative justification should be oriented towards how the activity will help meet the output measures stated in the associated Mission Supporting Goals & Objectives and Program Mission. The use of acronyms and technical jargon should be avoided. Descriptions should provide information on program changes, staffing requirements and identification of technology transfer activities. Meaningful activity descriptions should be provided for each fiscal year. The term "No Activity" should only be used in years prior to starting an

activity or after completing an activity. **Also, do not repeat verbatim the activity descriptions in each of the three years**. The following items, at the minimum, need to be discussed in this section:

1 *Construction*. Activity Descriptions should contain **consolidated** Construction Key Activity structure elements or include the construction dollars in the various program activity structure elements. Please **do not** use this section to list each construction project associated with this Program Performance Summary because Part IV has been designed specifically to capture individual construction project information. BARRS can be used to produce summary construction amounts by giving individual projects a reporting level indicator (RLI) of "AD" under a Construction key activity (RLI of KA). The dollars for each project can be entered, but only the total for the "KA" Construction element will be printed on the report.

2 *Comparability Transfers*. Comparability transfers must be separately addressed with their own narrative description. Narrative descriptions for all activities involving a comparability transfer must begin with the word "TRANSFER:" capitalized and followed by a colon.

In the budget structure attached to the FYBY Congressional Call, a comparability is denoted by a structure element with a period (".") in either the PY, or the appropriate CY (CS, or CM) columns, and an "X" in the BY column of the structure report.

3 *Presidential Initiatives/Other Ini*tiatives: Activity descriptions associated with investment initiatives must begin with the investment initiative title in capital letters as an introductory header to identify these high-priority activities. Presidential initiatives include the Climate Change Action Plan (CCAP), Partnership for a New Generation of Vehicles (PNGV), and Weatherization. Associated funding amounts for these activities must also be clearly identified. See Figure II-3g.2 for a sample narrative.

4 A new feature of BARRS can be used to provide dollar amounts in the narrative paragraphs of the performance Summary, if desired, by using the print option $ with Act Desc: Yes. Using this option avoids having dollar amounts in text that do not sum to the totals. The dollar amounts are added to the end of the text and enclosed in parenthesis.

(e) **Section IV.A.: Construction Project Summary**. This is a list of all construction projects which have funding in FYPY through FYBY. Projects are listed in descending fiscal year order beginning with FYBY.

1 The Heading of the Project Summary should include the notation that tabular dollars are in thousands and narrative material is in whole dollars. An additional line in the Heading will follow the fiscal year and budget cycle identification line if Projects previously transmitted to Congress have changed data or text. The heading will only be placed on the Project Summary, Part IV.A. The heading will not be repeated on the following Project Descriptive Summary pages, Part IV.B.

2 The title of Part IV. A. will include the expense type; e.g., "IV. A. Operating Expense Funded Project Summary" or "IV. A. Construction Funded Project Summary."

3 A "Redline indicator" (i.e., vertical line in the left margin) will be used for each project that has changes from the previous Part IV. A. transmitted in the last budget to Congress.

4 **Project No**.. The project number, obtained from the Budget Formulation Branch, consists of the last two digits of the year of initial funding of the project, a single letter code for the organization, and a three digit number. General Plant Projects have the letters "GP" in place of the initial funding year.

5 **Project Title**. The title of the project must be the same as the title that was given the project number. Project titles shall not be changed.

6 **Previous Obligations**. The total of all obligations previous to the FYPY is entered in this column.

7 **FYPY Adjusted**. The amount appropriated in FYPY, including any adjustments is entered in this column.

8 **FYCY Adjusted**. The FYCY amount - either requested for appropriation or appropriated, including any amendments or adjustments, depending on the status of Congressional action - should appear in this column.

9 **FYBY Request**. The amount of the BY request for the project is entered in this column.

10 **Unappropriated Balanc**e. The balance of the project total estimated cost (TEC) to be requested in fiscal years after the BY.

11 **TEC**. The project Total Estimated Cost.

(f) **Project Descriptive Summary (Section IV.B.)** - For each project listed in Part IV.A., a separate Project Descriptive Summary (Part IV.B.) is to be provided.

1 The same format is to be used for construction funded and operating expense funded projects. The title of Part IV. B. will include the expense type; e.g., "IV. B. Operating Expense Funded Project Summary" or "IV. B. Construction Funded Project Summary."

2 Information for Major Systems Acquisition (MSA) or Major Project (MP) projects will be in agreement with the project plan baseline document. Only directed changes (i.e., directed by Congressional action) or Energy Systems Acquisition Board (ESAB) approved changes are to be identified.

3 The Financial Schedule (Section 2 of Part IV.B.) shall be reconciled to the Departmental Primary Accounting System (DPAS) i.e., Financial Information System (FIS) and Funds Distribution System (FDS).

4 Project changes between the present Part IV.B. and the Part IV.B. transmitted in the last budget to Congress will be explained in Section 3 of Part IV.B. with a "Redline indicator" in the left margin of the explanation. Every effort should be made to ensure that project narrative and any necessary explanation of changes are succinct (i.e., short but meaningful) so that each Part IV. B. is only a single page. Footnotes should be used sparingly. See Figure II-3g.2 for examples of Part IV.A. and Part IV.B.

(g) **Environmental Restoration (EM-40) Projects**. For Environmental Restoration (EM-40) projects under the Assistant Secretary for Environmental Restoration and Waste Management, the following definitions shall apply for each MSA unless a separate precedent has been established:

1 Total Estimated Cost (TEC): This term will not be used for EM-40 projects. The right most column heading of Part IV. A. will be

modified to be “TPC”. In addition, the entry for TEC in Part IV. B. will be state “see TPC”.

2 Total Project Cost (TPC): The cost included in the most current Ten Year Plan or in an approved Baseline Document which sums all previous costs plus projected costs for the next five fiscal years. The TPC shall include all associated Other Project Costs for this period. If certain projects which extend beyond the Ten Year Plan have approved baseline in place, they shall be used in their entirety.

3 Additionally, in Part IV.B., for EM-40 projects the Start Date: will be changed to Date Cleanup Phase Initiated: and the Completion Date: will be changed to Date Cleanup Phase Ends:

BIOLOGICAL AND ENVIRONMENTAL RESEARCH

ENVIRONMENTAL RESEARCH

(Tabular dollars in thousands, narrative in whole dollars)

I. Mission Supporting Goals and Objectives: Research is focused on understanding the basic chemical, physical, and biological processes of the Earth's atmosphere, land, and oceans and how these processes may be affected by energy production and use, primarily the emission of carbon dioxide from fossil fuel combustion. A major part of the research is designed to provide the data that will enable an objective assessment of the potential for, and consequences of, global warming. The program is comprehensive with an emphasis on the radiation balance from the surface of the Earth to the top of the atmosphere including the role of clouds and on enhancing the quantitative models necessary to predict possible climate change at the global and regional levels. There are four contributing areas to this research program: **Climate and Hydrology, Atmospheric Chemistry and Carbon Cycle, Ecological Processes, and Human Interactions**. The National Institute for Global and Environmental Change (NIGEC) is included within these four areas. The Environmental Processes subprogram is DOE's contribution to the U.S. Global Change Research Program that was codified by Congress in the Global Change Research Act of 1990.

II. Funding Schedule:

Program Activity	FYPY	FYCY	FYBY	$ Change	% Change
Climate and Hydrology	$ 53,515	$ 51,804	$ 54,267	$+ 2,463	+ 4.8%
Atmospheric Chemistry and Carbon Cycle	27,317	29,032	27,164	- 1,868	- 6.4%
Ecological Processes	12,287	11,797	11,448	- 349	- 3.0%
Human Interactions	9,733	8,981	9,458	+ 477	+ 5.3%
Total, Environmental Processes	$ 102,852	$ 101,614	$ 102,337	$+ 723	+ 0.7%

Figure II-3g.1
Program Performance Summary, EWD

Sample Format
BIOLOGICAL AND ENVIRONMENTAL RESEARCH
ENVIRONMENTAL PROCESSES

III. Performance Summary- Accomplishments:	**FYPY**	**FYCY.**	**FYBY**
Climate and Hydrology			
-Parallel Ocean Program model delivered by CHAMMP to climate modeling community for coupling with atmospheric models. Continued ocean process modeling efforts to improve understanding of exchange of heat and carbon dioxide between the ocean and atmosphere.	xxx		
-Initiated major field program at Cape Hatteras, NC, to probe changes in biological and geological properties at the ocean-land interface from increasing concentrations of atmospheric carbon dioxide.	xxx		
-Implement initial experiments with coupled climate system models on massively-parallel super-computers to capitalize on computational improvements. Execute multi-decade simulations of climate change to address century-scale climate prediction and evaluate estimates of model uncertainties to changes in atmospheric concentrations of greenhouse gases.		xxx	
-Complete measurements of ocean carbon in the Indian Ocean as part of the global survey of inorganic carbon in the ocean to understand role of ocean in the uptake of atmospheric carbon dioxide.		xxx	
-Complete evaluation of data obtained in field campaign at land/ocean interface.			xxx
Total Climate and Hydrology	$53,515	$51,804	$54,267

Figure II-3g.1
Program Performance Summary, EWD

Sample Format
BIOLOGICAL AND ENVIRONMENTAL RESEARCH
ENVIRONMENTAL PROCESSES

III. Performance Summary- Accomplishments:	**FYPY**	**FYCY.**	**FYBY**
Atmospheric Chemistry and Carbon Cycle			
-Second ARM Site established in Tropical Western Pacific. Started key measurements to determine how tropical clouds are mathematically represented in General Circulation Models (GCMs).	xxx		
-Terrestrial Carbon Processes Research Program initiated to quantify fraction of fossil carbon dioxide taken up by terrestrial vegetation and to predict future uptake.	xxx		
-Acquired and analyzed data to determine the possible impact of energy emissions on tropospheric and stratospheric ozone.	xxx		
-The Quantitative Links program was completed, delivering information for the ARM and other programs.	xxx		
-Complete the experiments at the Oklahoma ARM site that will solve the puzzle of anomalous short wave absorption by clouds.		xxx	
-Begin periodic Intensive Observational Periods (IOPs) at the ARM site in the Tropical Western Pacific to improve parameterization of clouds in climate models. Continue collaborations with Australia, Papua New Guinea, and Japan. Initiate preparations for third ARM site on the North Slope of Alaska.		xxx	
-Continue experiments to quantify forest ecosystem responses to elevated carbon dioxide and climate variation.	xxx	xxx	
-Develop improved process models and methods for assessing regional consequences of atmospheric and climatic changes on ecological systems and human resources.		xxx	

Figure II-3g.1
Program Performance Summary, EWD

Sample Format
BIOLOGICAL AND ENVIRONMENTAL RESEARCH
ENVIRONMENTAL PROCESSES

III. Performance Summary- Accomplishments:	**FYPY**	**FYCY.**	**FYBY**
-Participate in the North American Research Strategy for Tropospheric Ozone (NARSTO) Program, designed to quantify and characterize the scientific uncertainties of urban and rural smog and provide data for science-based air quality management decisions by Federal, state, and local authorities.		xxx	
-Field experiment of land-ocean research becomes fully operational and its completion results in determining if the coastal oceans are a source or sink for atmospheric carbon dioxide.		xxx	
Develop improved process models and methods for assessing regional consequences of atmospheric and climatic changes on ecological systems and human resources.		xxx	
-Establish third ARM Site on North Slope of Alaska and begin arctic data collection to support improvements in treatment of clouds and radiation in GCMs. Maintain full operation at the ARM sites in Oklahoma and the Tropical Western Pacific.			xxx
-Include advanced understanding of how clouds affect atmospheric heating and cooling in the GCMs based on ARM data. Initiate the next step in the comparison of models by coupling with ocean models to enable the long-term climate predictions necessary for understanding global climate change.			xxx
-Provide improved estimates of atmospheric carbon dioxide changes that result from fossil fuel combustion. Improve understanding of the terrestrial biosphere's role in the uptake of carbon dioxide (i.e., the carbon exchange between the atmosphere and forests).			xxx
Total Atmospheric Chemistry and Carbon Cycle	$27,317	$29,032	$27,164

Figure II-3g.1
Program Performance Summary, EWD

Sample Format
BIOLOGICAL AND ENVIRONMENTAL RESEARCH
ENVIRONMENTAL PROCESSES

III. Performance Summary- Accomplishments:	**FYPY**	**FYCY.**	**FYBY**
Ecological Process			
-Provided regional estimates of sensitivity of ecological systems to climatic and atmospheric changes as a foundation for science-based assessments of the consequences of global change.	xxx		
-Evaluate success of global change fellowship program with respect to training of new scientists and the development of cross-disciplinary skills of the graduate- and postdoctoral fellows.		xxx	
-Synthesize initial results from experimental and observational studies to quantify responses of southern hardwood forest and arid land ecosystems to alterations in precipitation.			xxx
-Complete evaluation of data obtained in field campaign at land/ocean interface.			xxx
-Complete regional analysis to identify ecological systems most sensitive to climatic variation and change to provide improved assessments of consequences of climate change.			xxx
Total Ecological Processes	$12,287	$11,797	$11,448

Figure II-3g.1
Program Performance Summary, EWD

Sample Format
BIOLOGICAL AND ENVIRONMENTAL RESEARCH
ENVIRONMENTAL PROCESSES

III. Performance Summary- Accomplishments:	**FYPY**	**FYCY.**	**FYBY**
Human Interactions			
-Continued development of integrated assessment models and other means for assessing the potential environmental and economic consequences of natural and human-induced climatic and atmospheric changes.	xxx		
-Supported new graduate and post-doctoral fellowships to provide for the next generation of multi-disciplinary research scientists.		xxx	
-Radon program completed, and results synthesized to develop protocols for identifying areas with high risk potential for elevated indoor radon..		xxx	
-Initiate a Young Scientists Award Program to strengthen global change research infrastructure at universities and national laboratories.			xxx
-Funding for SBIR and STTR programs.	xxx	xxx	xxx
Total Human Interactions	$9,733	$8,981	$9,458
Total Environmental Processes	**$102,852**	**$101,614**	**$102,337**

Figure II-3g.1
Program Performance Summary, EWD

Sample Format
BIOLOGICAL AND ENVIRONMENTAL RESEARCH
ENVIRONMENTAL PROCESSES

EXPLANATION OF FUNDING CHANGES FROM FYCY TO FYBY:

Climate and Hydrology: The Atmospheric Radiation Measurement (ARM) program will continue to develop and operate the planned ARM sites, including the second and third sites located in the Tropical Western Pacific and the North Slope of Alaska, respectively. Activities within CHAMP, the UAV-ARM program, and relevant parts of NIGEC will proceed at levels appropriate to their scientific priorities and urgencies.	+$2,463,000
Atmospheric Chemistry and Carbon Cycle:- Activities within Marine Transport/Ocean Margins have focused on the role of coastal oceans as a source or sink for atmospheric carbon dioxide and the processes controlling the uptake, transport, and sequestration of carbon in the coastal ocean. Studies have included the use of biomarkers, measures of bacterial respiration, and studies of biogeochemical processes at the land/water interface. Research involving the development and application of such molecular and biological methods will be supported in the context of the synergistic and complementary research areas under the environmental remediation subprogram. Studies have included the use of biomarkers, measures of bacterial respiration, and studies of biogeochemical processes at the land/water interface. Research involving the development and application of such molecular and biological methods will be supported in the context of the synergistic and complementary research areas under the environmental remediation subprogram.	-$1,868,000
Ecological Processes: Experimental and observational studies will continue at a reduced pace. The program scope is maintained.	-$349,000
Human Interactions: - Integrated assessment studies targeted at the science-based understanding of the implications of fundamental research in issues related to environmental processes will be strengthened. Newly initiated activities directed towards the inclusion and development of minority students in peer-reviewed research focused on environmental processes will be maintained.	+$477,000
Total Funding Change, Environmental Processes:	+$723,000

MAJOR ISSUES:
This section should be included when there are significant issues, concerns or sensitivities related to the sub-program (e.g., litigation).

Figure II-3g.1
Program Performance Summary, EWD

Sample Format
BIOLOGICAL AND ENVIRONMENTAL RESEARCH
ENVIRONMENTAL PROCESSES

INDUSTRIAL TECHNOLOGIES
INDUSTRY SECTOR
(dollars in thousands)

I. Mission Supporting Goals and Objectives: Process Efficiency

Process Efficiency concentrates on the core fabrication processes and energy intensive industries that provide the foundational infrastructure of the United States manufacturing economy. The four key activities in this subprogram area are: Materials and Materials Processing, Paper and Pulp, Chemicals and Petroleum Refining, and Food, Textiles, and Agriculture. Process Efficiency replaces previous Industrial Sector budget key activities of Materials Processing, Separations, Sensors and Controls, Bioprocessing, and Enabling Materials except for CFCC.

Process Efficiency addresses critical areas for increased research and development to improve energy efficiency in the energy intensive industries. Domestic producers in these industries are increasingly threatened by offshore competitors. Development of leading edge process technologies is viewed as a key strategy to building a strong industrial economy and is important to national security. These industries are among the largest industrial energy consumers, using about 30 quads annually to produce goods valued at about $900 billion. Energy costs are a significant part of total production costs with typical process energy efficiencies less than 50 percent. Therefore, the program goal of increasing energy efficiency can significantly improve the cost-competitiveness of these industries. In addition, utilization of improved sensors and controls is a key strategy that is embodied in each program area as a means to increase the energy efficiency and productivity of industrial processes. Aggressive government-industry action to develop and implement advanced production technologies is needed to maintain and enhance U.S. competitiveness. To achieve the program's objectives, the Process Efficiency program focuses on defining the industry "vision statements" of plants of the future by identifying the technical, market and regulatory challenges that impact the evolution of the next generation plants. New technologies can be developed, in cooperation with industry, that will: (1) eliminate energy-intensive unit processes, (2) improve present processing to enhance productivity while reducing energy demand, (3) reduce manufacturing costs to improve competitiveness, and (4) minimize environmental impact.

Figure II-3g.2
Program Performance Summary, INT

I. Mission Supporting Goals and Objectives: Process Efficiency (Cont'd)

MATERIALS AND MATERIALS PROCESSING

The Materials and Materials Processing program includes the mandated programs of Metals Initiative, Metal Casting Competitiveness, Advanced Manufacturing Initiative and the Advanced Materials Initiative, in addition to the generic program areas of Process Electrolysis, Foundries and Glass, Engineered Industrial Materials and Materials Manufacturing Technologies. These industries are among the largest industrial energy consumers, directly using about 5 quads annually (about 16 percent of total industrial energy consumption) to produce goods valued at about $65 billion. Energy costs are a significant part (more than $15 billion) of total production costs. The process industries addressed are either suppliers to or producers of virtually all manufactured goods in the United States. Therefore, successful technology development will have a significant positive effect on the national economy. The programs are guided by an analytical activity which reflects the viewpoint of industry referred to as the "vision of the future." These documents will be created and peer reviewed by industry. The vision statements will provide a blueprint to coordinate industry and government efforts.

The Metals Initiative is mandated by Public Law 100-680 and reauthorized by 102-486 (Energy Policy Act of 1992). These laws recognize that maintaining a viable domestic metals industry is vital to national security and economic growth. The Metals Initiative seeks to develop technologies that will "leapfrog" the metals industry into a state-of-the-art position, putting U.S. industries in a more competitive position worldwide. Major projects already underway aim directly at reduction of iron ores into molten iron and steel, spray forming of aluminum, and advanced process control for steel mills. Potential energy savings benefits of 0.6 Quad/year are estimated from successful completion of presently funded research projects. With successful completion of the direct iron making pilot plant study in mid FY 1995, plans are to demonstrate this technology at a commercial steel plant.

Process Electrolysis component focuses on research and development of improved technologies which increase the energy efficiency of aluminum production and new electrolytic technologies for other metals. After new concepts are evaluated and establish the viability of a new technology, the actual applied development work to demonstrate the specific industrial application is transferred to the Metals Initiative program. In FY 1995, process electrolysis research will be continued on projects for the aluminum, copper, magnesium, and neodymium industries. In the mid-term, present projects have the potential to save 0.44 to 1.14 quad annually.

Foundries and Glass component focuses on improvements in glass processing, foundry practice, improved refractories, and mining. Work on activities in FY 1995 for foundries and glass plants of the future will include the scale-up and testing of a rapid glass refiner and improved high-temperature insulating fibers. In the long term, ongoing projects could provide energy savings of 0.15 quad/year. Research will continue to be conducted at the National Metal Casting Research Institutes, established by the Metal Casting Program in accordance with P. L. 101-425 and the Energy Policy Act of 1992, Section 2106. In view of the unique nature of the industry, which is characterized by small businesses unable to support research with their limited resources, much of

Figure II-3g.2
Program Performance Summary, INT

the cost-sharing is provided through the industry's professional societies and trade associations. Short- and mid-term savings for the metal casting program are 0.05 quad annually.

It is widely recognized that, while the U.S. is the world leader in basic research in materials, inadequate attention has been paid to the synthesis, processing, and applications engineering needed to adapt the basic technology to actual industrial applications. Advanced materials can save significant energy by enabling systems to operate at higher temperatures and can increase service lives with less downtime and lower annual capital costs. Enabling Materials activities focus on developing high-temperature, corrosion-resistant, and thermally insulating materials. Major efforts in FY 1995 include development and commercialization of ordered intermetallic alloys, ceramic composites, and a new, low cost method for the production of near net shape composites through infiltration of powder preforms by reactive metals. Work will continue to bring the technology for recycling mixed plastics waste streams to the demonstration stage and to identify and solve material problems in the energy intensive industries, such as pulp and paper.

The Energy Policy Act requires the implementation of the National Advanced Materials and Advanced Manufacturing Technologies Initiatives. This Act establishes programs that support industry-led efforts to commercialize advanced technologies in materials and manufacturing. The Initiatives program is required to expedite the private sector deployment of advanced technologies to improve productivity, quality, and control in manufacturing processes that can foster economic growth, energy efficiency, and competitiveness. These Initiatives will be implemented in FY 1995 with the objective of reducing the technical and economic risks associated with commercialization and deployment of advanced technologies. Program plans will be completed in the second quarter of FY 1994 and solicitations will be issued later in FY 1994.

CHEMICALS AND PETROLEUM REFINING

The Chemicals and Allied Products (SIC 28) industry, the largest exporting sector of U.S. industries, is truly global in nature, and partly dependent upon world economic conditions; more than two-thirds of the U.S. industry's direct foreign investment is in Europe and Canada. In response to market shifts, U.S. industry will move toward higher-value products. The Petroleum Refining (SIC 2911) industry is facing major restructuring in response to capital investment pressures to meet the Clean Air Act of 1990. This restructuring includes a trend of major decreases in R&D in favor of buying technology, and closing of small refineries beyond 1997.

Industry-derived "Visions" for the chemical and petroleum refining "Industries of the Future" are being developed to provide strategic direction to these programs, and will require increased focus on value-added processing from a total plant life-cycle perspective to minimize energy, waste, and feedstock costs for maximum productivity growth. The "Refinery of the Future" program plan will be completed in FY 1994 to support the "next generation" of

Figure II-3g.2
Program Performance Summary, INT

integrated petroleum refinery processes that will sustain and enhance domestic refinery competitiveness through product yield improvement, energy efficiency, and waste minimization. Efforts are also underway to complete the "Chemical Industry of the Future" program plan. Current process improvement efforts are directed to increasing the efficiency of energy intensive separations processes in these two (petrochemicals) industries. One effort involves the development of catalyst models to aid process engineers in the design of more efficient catalysts for new and existing process operations. A second effort involves the development of bioprocessing capabilities for integration into chemical process systems. Of primary interest in this area is the development of enzymes and bioreactor systems that can operate in non-aqueous media. The opportunity for improved separations is large, since distillation and evaporation alone consume 2.6 quads per year. Major projects supported in 1995 include the hybrid Facilitated Transport Membrane (FTM) separation of propane from propylene in an oil refinery, active transport membranes (ATM) to remove hydrogen sulfide from natural gas, high temperature ceramic membranes for catalytic dehydrogenation, and commercial applications for polyphosphazene membranes. Sensor development addresses the control of the energy-intensive distillation process, which consumes 2.4 quad/year. A chemical composition sensor for non-aqueous applications has been developed which, if successful, could save about 0.03 quad/year based on the initial industrial field test. A Raman sensor allowing analysis of chemical compositions through steady state transitions for advanced control strategies of aqueous distillation applications is being evaluated by a second major chemical company.

Feedstock flexibility for the "chemical plant of the future" is addressed by the Alternative Feedstocks' program opportunity for displacing petroleum-based feedstocks with dedicated forestry and agricultural resources for the manufacture of high-volume, non-energy chemical products. To meet the energy goal of 1 quad/year by 2030, a research, development and demonstration "pipeline" of 12 chemical products must be initiated by 2000, and be ready for commercialization by 2015. Concurrent development of higher value products using high-value chemicals from renewables will be a critical market-penetration program strategy. The initial program focus is the development of an economic process to produce succinic acid. Succinic acid has the potential to be used in the manufacture of nylon and other polymer precursors.

PULP AND PAPER

The U.S. paper and allied products industry ranks eighth among all U.S. manufacturing industries in the value of its shipments, and third among the nondurables sector in sales. The industry has traditionally been a U.S. leader in annual investment for plant and equipment, ranking in capital expenditures, according to the most recent Bureau of the Census data. The paper industry consumes some 2.75 quads annually but self-generates about 1 quad of this energy from bark, "hog" fuel (wood waste), and a recycle stream termed "black liquor." A comprehensive program plan for pulp and paper R&D was completed in FY 1994; and in response to Section 2103 of the Energy Policy of 1992, which directed a five-year program on advanced pulp and paper technologies, an aggressive program targeted to high-impact R&D in the paper industry was begun in FY 1994. The program for the "Pulp and

Figure II-3g.2
Program Performance Summary, INT

Paper Mill of the Future" addresses the most energy-intensive process steps in a pulp/paper mill, which are chemical and mechanical pulping, chemical recovery, paper making; and sensors and controls.

Technology highlights for FY 1995 include planning and design for a 350 ton/day demonstration unit of the pulse combustion black liquor gasifier process, with near-term energy savings potential of 0.1 quad/year. Lab-scale studies will be continued to develop a process to produce anthraquinone for lignin, a pulping catalyst, that offers mid-term energy savings of 0.02 quad/year. In-plant verification of the black liquor recovery boiler model will be continued. Construction and installation of a large-scale pilot unit to demonstrate high-solids firing of black liquor will be initiated. Prototype testing at selected mill sites will be completed for a lignin fluorescence sensor, a black liquor viscometer, and an FTIR sensor for control of the Tomlinson black liquor recovery boiler. Development of a prototype on-machine sensor for control of paper properties, including plant validation studies, will be continued.

FOOD, TEXTILES, AND AGRICULTURE

The Food and Beverage industry (SIC 20) became the nation's largest major manufacturing sector in 1992, with shipments of more than $377 billion, surpassing the transportation equipment industry. Technologies in support of these industries have focused on reducing the energy utilization of energy-intensive drying processes, farm fertilizer use, and crop yields. In food and agriculture, a number of sensor developments will be completed, including in-field testing of an ammonia sensor, and field tests of a sensor to measure sucrose content of fruits. Marketing plans will be completed for the sonic temperature sensor for aseptic food processing, and the HTNMR (hydrogen transient nuclear magnetic resonance) moisture sensor for food drying.

Figure II-3g.2
Program Performance Summary, INT

II. A. Funding Table: Process Efficiency

Program Activity	FY PYxx Comparable	FY CYxx Request	FY BYxx Request	% Change
Materials and Materials Processing				
Metals Initiative	$ 17,755	$ 19,366	$ 21,923	+ 13
Process Electrolysis	1,471	1,500	2,472	+ 65
Foundries and Glass	6,312	4,500	13,386	+197
Advanced Materials	10,106	9,286	12,465	+ 34
Subtotal, Materials and Materials Processing	$ 35,644	$ 34,652	$ 50,246	+ 45
Chemicals and Petroleum Refining				
Alternative Feedstocks	$ 2,257	$ 2,780	$ 6,675	+140
Bioprocessing	5,103	5,084	4,048	- 20
Process Development	1,587	4,196	4,063	- 3
Subtotal, Chemicals and Petroleum Refining	$ 8,947	$ 12,060	$ 14,786	+ 23
Pulp and Paper	$ 5,518	$ 6,495	$ 6,750	+ 4
Food, Textiles, and Agriculture	685	635	471	- 26
Total, Process Efficiency	$ 50,794	$ 53,842	$ 72,253	+ 34

II. B. Laboratory and Facility Funding Table: Process Efficiency

Argonne National Lab (East)	$ 535	$ 977	$ 2,225	+128
Idaho National Engineering Lab	2,375	2,554	3,074	+ 20
Lawrence Berkeley Lab	850	925	799	- 14
Lawrence Livermore National Lab	170	200	235	+ 18
Los Alamos National Laboratory	2,735	2,440	2,586	+ 6
National Renewable Energy Lab	2,845	3,267	3,486	+ 7
Oak Ridge National Lab	4,585	4,648	5,577	+ 20
Pacific Northwest Lab	1,377	925	1,269	+ 37
Sandia National Laboratories	1,500	1,350	1,461	+ 8
All Other	33,822	36,556	51,541	+ 41
Total, Process Efficiency	$ 50,794	$ 53,842	$ 72,253	+ 34

Figure II-3g.2
Program Performance Summary, INT

III. Performance Summary: (New BA in thousands of dollars)

Program Activity	FY PYxx	FY CYxx	FY BYxx
Process Efficiency			
Materials and Materials Processing			
Metals Initiative	ENERGY SAVINGS OPPORTUNITY: 0.4 quad/year total, with 0.1 and 0.2 quad/year in aluminum and iron smelting respectively, and over 0.15 quad/year in near-net-shape steel processing. ENVIRONMENTAL BENEFITS: Nitrogen Oxide production is reduced in direct ironmaking through use of oxygen rather than air for combustion of coal. COMPETITIVENESS: All processes can achieve up to 50 percent reduction in capital, with 10-20 percent labor, energy cost savings, and improved productivity. ($0)	No Activities. ($0)	No Activities. ($0)

Figure II-3g.2
Program Performance Summary, INT

III. Process Efficiency (Cont'd):
Materials and Materials Processing (Cont'd):

Program Activity	FY PYxx	FY CYxx	FY BYxx
Metals Initiative (Cont'd)	DIRECT STEELMAKING: Installed and completed testing two-zone horizontal smelting vessel resulting in doubling of process intensity. Independent study by international engineering company confirmed process benefits compared to coke oven/blast furnace process and emerging Corex process. Completed direct ironmaking experimental program and process design manuals to support commercialization of direct iron/steelmaking. Completed pressurized smelter tests with gas cleaning and tempering loop. Completed feasibility study to define the integrated plant concept and component configuration for a demonstration plant. (AISI) ($9,235)	DIRECT STEELMAKING: Initiate and complete site-specific detailed engineering design of direct iron/steelmaking demonstration plant for 350,000 tons/year. Initiate site preparation, and procurement and fabrication of long-lead equipment (EPACT Section 2106) (AISI) ($14,100)	DIRECT STEELMAKING: Begin construction of 350,000 tons/year direct iron/steelmaking demonstration plant based on the successful results of the pilot unit campaigns and pre-reduction system developed in prior years. This plant will be installed in an existing integrated steel mill. Its production will feed directly into the mill's manufacturing line. (EPACT Section 2106) (AISI) ($9,809)

Figure II-3g.2
Program Performance Summary, INT

III. Process Efficiency (Cont'd):
Materials and Materials Processing (Cont'd):

Program Activity	FY PYxx	FY CYxx	FY BYxx
Metals Initiative (Cont'd)	DIRECT STRIP CASTING: Established technical and economic feasibility of casting low-carbon steel sheet on a single-wheel caster, using the open channel process. Cast 0.03-.125" X 12" wide, 500-3,000 lb. on single-wheel caster. Completed casting trials and development of math model and refractory fabrication techniques. Completed work on electromagnetic containment and began material studies. (ARMCO) ($984)	DIRECT STRIP CASTING: Complete casting trials, material studies, and begin technoeconomic analysis with FY 1993 funds. (ARMCO) ($0)	No Activities. ($0)
	RAPID ANALYSIS OF MOLTEN METALS: Installed molten metal levitation facility for sensor probe to rapidly determine the chemical composition of molten iron and steel, using spectroscopic analysis of laser-produced plasmas. Continued protocol development and began refractory studies.	RAPID ANALYSIS OF MOLTEN METALS: Complete work from previous year and initiate field testing of second probe. (EPACT Section 2106) (LEHIGH) ($284)	RAPID ANALYSIS OF MOLTEN METALS: Complete field testing of second probe using funds from prior years. (LEHIGH) ($0)

Figure II-3g.2
Program Performance Summary, INT

III. Process Efficiency (Cont'd):
Materials and Materials Processing (Cont'd):

Program Activity	FY PYxx	FY CYxx	FY BYxx
Metals Initiative (Cont'd)	Signed agreement to test first probe at a steel company. (LEHIGH) ($805)		
	ADVANCED PROCESS CONTROL: Using funds from FY 1991 and FY 1992, initiated project for advanced process control in the steel industry. Five-year program will design, test, and commercialize selected sensors, control devices, and software for on-line control. Major elements of work are: on-line sensors to measure temperature and composition of basic oxygen furnace (BOF) offgas, temperature of the steel bath, and operating control software; an electromagnetic flow control valve to feed steel into a continuous casting mold; on-line sensors to measure the physical properties of steel strip; on-line sensors to measure the temperature, thickness and composition of zinc	ADVANCED PROCESS CONTROL: Continue pilot testing of BOF off-gas and bath temperature sensors. Begin designing prototype units for mill trials at Bethlehem Steel. Develop process control software. Complete testing of electromagnetic valve, evaluate results, and design a valve to be installed on an industrial caster. Develop computer model to predict properties of hot rolled band. Perform laboratory investigations of magnetic and laser ultrasonic sensors to determine the properties of steel strip. Fabricate and begin lab testing of sensors to determine the composition and temperature of galvanneal strip; continue physical property modeling and sensor	ADVANCED PROCESS CONTROL: Complete testing of BOF bath sensor, continue testing offgas sensor, and begin production trials of process control software. Fabricate prototype valve and perform laboratory pouring trials. Verify model from mill samples. Test magnetic sensor in laboratory and begin construction of field unit. Design laser ultrasonic sensor. Field test sensors. (AISI) ($4,320)

Figure II-3g.2
Program Performance Summary, INT

III. Process Efficiency (Cont'd):
Materials and Materials Processing (Cont'd):

Program Activity	FY PYxx	FY CYxx	FY BYxx
Metals Initiative (Cont'd)	coatings on galvanneal, signed Financial Assistance Agreement, and issued all major subcontracts. (AISI) ($0)	work. (EPACT Section 2106) (AISI) ($3,109)	
	STABLE CATHODE: Kaiser Aluminum joined with Reynolds Metals and Great Lakes Research to complete the testing of titanium diboride/graphite stable ($400) cathode technology at their Mead, WA. facility. This technology will save 0.1 quad when retrofitted to the U.S. aluminum capacity. (Reynolds) ($708)	STABLE CATHODE: Complete field testing of stable cathodes on commercial size cells. (EPACT Section 2106) (Reynolds)	STABLE CATHODE: No Activities. ($0)
	STEEL PLANT WASTE OXIDE RECYCLING: Began a project to determine, on a pilot scale, the feasibility of converting steel plant wastes to molten pig iron using direct steel smelting technology. The recycling of plant wastes by bath smelting would save an estimated 0.15 quad per year. Will reduce landfill requirements by 5-8 million tons/year, and	STEEL PLANT WASTE OXIDE RECYCLING: Continue smelting trials with FY 1993 funds. (AISI) ($0)	STEEL PLANT WASTE OXIDE RECYCLING: Will complete smelting trials and perform technoeconomic analysis. (EPACT Section 2106) (AISI) ($1,094)

Figure II-3g.2
Program Performance Summary, INT

III. Process Efficiency (Cont'd):
Materials and Materials Processing (Cont'd):

Program Activity	FY PYxx	FY CYxx	FY BYxx
Metals Initiative (Cont'd)	reduce dust disposal cost by up to $100 million/year. Performed studies to characterize steel mill waste products and material handling properties. Added a second wet scrubbing cyclone to the smelter. Began smelting trials on various combinations of plant wastes. (AISI) ($3,556)		
	NEW PROJECTS: Started new Metals Initiative projects in response to unsolicited proposals and solicitations in areas defined in the Metals Initiative Research Plan, such as steel plant waste recycling, and calcination of alumina. (TBD) ($346)	NEW PROJECTS: Continue Metals Initiative projects begun with FY 1993 ($0) funds. Start new Metals Initiative projects in response to unsolicited proposals and solicitations in areas defined in the Metals Initiative Research Plan. (EPACT Section 2106) (TBD) ($1,473)	NEW PROJECTS: No Activities. (TBD)
	ALUMINUM SPRAY FORMING: Commenced bench scale work by the modification of existing equipment at the Alcoa technical center, conduct parametric studies, mathematical modeling, nozzle design, and refractory/material	ALUMINUM SPRAY FORMING: Continue work initiated with FY 1993 funds. (EPACT Section 2106) (ALCOA) ($0)	ALUMINUM SPRAY FORMING: Continue bench-scale work and evaluate the data to determine if continuation to pilot scale is appropriate. Design and begin construction of pilot plant, mathematical modeling, safety and

Figure II-3g.2
Program Performance Summary, INT

III. Process Efficiency (Cont'd):
Materials and Materials Processing (Cont'd):

Program Activity	FY PYxx	FY CYxx	FY BYxx
Metals Initiative (Cont'd)	design. Planned and conducted bench scale studies for aluminum copper alloys and aluminum zirconium alloys, characterized the sprayed samples, and evaluated sample solidification and microstructure. Conducted/updated the energy analysis, economic analysis, and updated the capital requirements for commercialization of this technology. Reports have included documentation of as-sprayed specimens, results of solidification studies, microstructural evaluation, characterized initial as-sprayed specimens, results of the aluminum copper and aluminum zirconium study, and an initial evaluation of refractory/nozzle materials. (EPACT Section 2106) BENEFIT: Energy Savings: with spray forming, a savings of 4.2 x 10 (to the sixth power) Btu/ton of aluminum sheet produced could be saved over conventional		industrial hygiene analysis. Characterize mechanical properties of spray deposited commercial alloys. The economic analysis will be updated for spray forming and capital requirements, investigate market potential for this technology with end users. (EPACT Section 2106) (ALCOA) ($6,700)

Figure II-3g.2
Program Performance Summary, INT

III. Process Efficiency (Cont'd):
Materials and Materials Processing (Cont'd):

Program Activity	FY PYxx	FY CYxx	FY BYxx
Metals Initiative (Cont'd)	processing; That is a maximum energy savings 27 percent by spray forming versus ingot casting; Environment: provides an increased recyclability of aluminum products and a reduction in waste produced in milling required for the ingot cast alloys; Economics: two cent per pound of finished sheet cost savings; acts as enabling technology for the automotive industry use of aluminum parts and panels which leads to substantial fuel savings; Jobs: increase the number of high value U.S. jobs in aluminum manufacturing and end use applications due to the economic growth provided by gaining market share and saving energy. (ALCOA) ($2,121)		
	$17,755	$19,366	$21,923

Figure II-3g.2
Program Performance Summary, INT

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
FOSSIL ENERGY RESEARCH AND DEVELOPMENT
(Tabular dollars in thousands. Narrative material in whole dollars.)

IV. A. Construction Funded Project Summary Listing:

Project No.	Project Title	Previous Appropriations	FYPY Adjusted	FYCY Adjusted	FYBY Request	Unappropriated Balance	TEC
GPP-600	General Plant Projects						
95-F-601	Upgrade to METC Bldg. B-4		a/				a/
94-F-601							
Total:							
Total Number of Line Items							

a/ Funds reprogrammed from line-item project 92-F-603, reprogramming number.

Figure II-3g.2
Program Performance Summary, INT

IV. B. Construction Funded Project Descriptive Summary

1. Project Title and Location — Project GPP-600 General Plant Projects, Various Locations — TEC: N/A

   Start Date: 1st Qtr. FY 1997 — Completion Date: 4th Qtr. FY 1997

2. Financial Schedule (Federal Funds):

Fiscal Year	Appropriation	Adjustments	Obligations	Costs
1993				
1994				
1995				
1996				
1997				
1998				

3. Narrative:

These projects provide various items of new construction, additions, alterations, and improvements to buildings, and utility systems at Energy Technology Centers and the Bartlesville Project Office in support of environmentally safe and efficient program operations.

Figure II-3g.2
Program Performance Summary, INT

h. Program Direction. Conference Report 104-293 accompanying the FY 1996 Energy & Water Development (EWD) Appropriations Bill (H.R. 1905) requires that each organization have one program direction line within each appropriation account for all Full-Time Equivalents (FTEs), both field and headquarters. The Conference Report language also requires that object class information be provided. To comply with these reporting requirements, all EWD funded programs are must prepare and submit Figures II-3h.1 through 3h.3 according to the guidance provided below.

(1) **Program Performance Summary (Figure** II-**3h.1)**.
A separate Program Performance Summary shall be prepared for program direction funding for each appropriation with an organization. For example, the Office of Energy Research must submit to two Program Funding Profiles, one for Energy Supply Research and Development, and the other for General Science and Research Activities. The standard format for the Program Performance Summary has been slightly modified for reporting program direction activities.

Section I has been retitled "Mission Supporting Goals/Ongoing Responsibilities." This section should describe the purpose of the program direction line and also describe any activities funded under the following four categories: Salaries and Benefits, Travel, Support Services, and Other Related Services. All funding associated with program direction must be reported in one of the four categories. Definitions for these categories are provided at the end of this section.

Section II - "Funding Table" has been modified to report program direction funding and Full Time Equivalents (FTEs) by site by the four categories (Salaries and Benefits, Travel, Support Services, and Other Related Services) for each of the three fiscal years (PY, CY, BY). Area and Support Offices should be included under the cognizant Operations Office. For example, the Argonne, Brookhaven, Princeton Area Offices, and the Chicago Support Office should be included under Chicago Operations Office. The "Other" site category should be used only for those sites that are not associated with the Operations Offices listed in the Funding Table.

The last group of entries on the table displays total program direction funding and FTEs for the organization. An adjustment line shall be used to reflect general reductions, and the use of any prior year balances in any of the fiscal years. The amount in the adjustment line is then subtracted from the organization's total line to calculate new budget authority. The adjustment column should be used to reflect any actual budget adjustments such as approved reprogrammings, distribution of general reductions, or rescissions.

A detailed backup schedule is required for any program direction funding and FTEs reported under the "Other" sites section. This schedule should list the specific site(s) included as well as the associated program direction funding and

FTEs. This "Other" sites backup summary should follow the same format as the Section II "Funding Table."

Section III - During the "lessons learned' meeting with EWD committee staff on the FY 1997 Congressional Budget Request, staff noted that the "Performance Summary" section was not very helpful because it simply described many of the obvious ongoing activities that are funded in program direction (e.g., "provide personnel compensation including salaries and benefits for 310 full-time equivalents"). Committee staff directed the Department to condense this section to describe those activities that readily are quantifiable and substantively justify the need for federal staff and the resources to support such staffing levels. Therefore, organizations should take care to identify and describe oversight/management activities performed and the programmatic problems that could occur in the absence of DOE oversight/management. Describe if the program is staffing up or down, reducing or increasing support service contracts or working capital activities, by how much and why. Explain if severance or voluntary separation incentive payments are being funded, including the number of FTEs affected and the estimated cost.

Section IV - "Explanation of Funding Changes from FYCY to FYBY" should be explained in terms of total category levels (i.e., Salaries and Benefits, Travel, Support Services, and Other Related Costs) for the organization as well as for specific sites. Net changes in categories should be broken out by the specific increases or decreases of subordinate activities.

(2) **Detailed Support Services Schedule (Figure** II**-3h.2)**
Organizations that fund support service contracts are required to prepare and submit a detailed breakout of such contracts. The schedule should be prepared according to the definitions provided below.

(3) **Detailed Other Related Expenses Schedule (Figure** II**-3h.3)**
Organizations are required to prepare and submit a detailed breakout of other related expenses. This schedule should be prepared according to the definitions provided below.

Definitions of Program Direction Categories:

Salary and Benefits - (Object Class categories 11.1 through 13.0)
Salary includes compensation for regular salaries and wages paid directly to civilian full-time permanent and other than full-time permanent employees, other payments that become a part of the employee's basic pay rate (e.g., geographic differentials and nationwide pay raises) and other personnel compensation such as overtime, holiday pay, Sunday pay, and cash incentive awards.

Benefits includes cash allowances for relocation and other expenses related to permanent change of station (PCS) and payments to funds for the benefit of employees. Such payments include the employer's share of employee retirement, health and life insurance, accident compensation, Federal Insurance Contribution Act taxes, and Federal Retirement Thrift Savings Plan. Includes annual $80 payments to the civil service retirement fund for currently employed CSRS and FERS personnel , as required by the Federal Workforce Restructuring Act of 1994. Also, includes payments to subsidize the costs of civilian employees in commuting by public transportation.

Benefits also includes payments for former employees such as severance pay to employees involuntarily separated, and voluntary separation incentives. Includes payments to the unemployment fund, payments of 9 percent of final basic pay to the civil service retirement fund for employees who took the early-out or buy-out authority, and payments to the Employees health benefits fund for annuitants.

Travel - (Object Class categories 21.0 and 22.0)
Travel includes funding for the transportation of Government employees, their per diem allowances while in authorized travel status, and other expenses incidental to travel that are to be paid by the Government either directly or by reimbursing the traveler. Travel also includes transportation of things, for the care of such things while in process of being transported, and for other services incidental to the transportation of things. An example, would be the transportation of household goods related to permanent change of station (PCS).

Support Services - (Object Class category 25.1)
As a part of the Strategic Alignment Initiative, support services were grouped into the following two categories below. The format for displaying detailed information on support services is shown in Figure III-3h.2.

(1) *Technical Support Services* - includes funding for services which include, but are not limited to, determining feasibility of design considerations; development of specifications, system definition, system review and reliability analyses; trade-off analyses; economic and environmental analyses which may be used in the Department of Energy's preparation of environmental impact statements; test and evaluation, surveys or reviews to improve the effectiveness, efficiency and economy of technical operations.

Management Support Services - includes funding for services which include, but are not limited to, analyses of workload and work flow; directives management studies; automated data processing; manpower systems analyses; assistance in the preparation of program plans; training and education; analyses of Department management processes; and any other reports or analyses directed toward improving the effectiveness, efficiency and economy of management and general administrative services.

Questions on the definition of support services should be directed to the contact listed in the Point of Contact Matrix provided at the front of this chapter.

Other Related Expenses - (Object Class categories 23.1 through 24, 25.2 and 25.3, 25.7, 26.0, and 31.0) Other Related Expenses includes all program direction costs not reported under Salaries and Benefits, Travel or Support Services. The format for displaying other related expenses is shown in Figure II-3h.3. Specifically, this category includes payments for rental space, telecommunications, utilities and miscellaneous charges, printing and reproduction, operation & maintenance of equipment, purchases of goods and services from government accounts, supplies and materials, and equipment.

Expenses incurred through the Working Capital Fund should be budgeted for in object class 25.3 since they are intra-agency reimbursable costs. The Working Capital Fund is, generally, a subset of this category. In other words, the Fund does not constitute a Congressional Control level but may be displayed as a distinct funding requirement within Other Related Expenses.

DEPARTMENT OF ENERGY
FY BY CONGRESSIONAL BUDGET REQUEST
ENERGY SUPPLY, RESEARCH AND DEVELOPMENT
(Tabular dollars in thousands, Narrative in whole dollars)

OFFICE OF ENERGY RESEARCH PROGRAM DIRECTION

I. Mission Supporting Goals/Ongoing Responsibilities:

Program direction provides overall direction and administrative support for Energy Research programs to ensure that all operations are conducted in the most efficient manner consistent with national science and technology policy....

Program direction has been grouped into four categories:
Salaries and Benefits provides for .....

Travel.....

Support Services.....

Other Related Expenses.....(explain Headquarters Working Capital Fund costs and any landlord responsibilities in the field)

II. Funding Table:

	FY PY Comparable Appropriation	FY CY Budget Request	FY CY House Mark	FY CY Senate Mark	FY BY Budget Request
Chicago					
Salary and Benefits	5,371	4,380	4,380	4,380	4,000
Travel	386	350	350	350	300
Support Services	254	204	204	204	180
Other Related Expenses	461	460	460	460	460
Total	$ 6,472	$ 5,394	$ 5,394	$ 5,349	$ 4,940
Full Time Equivalents	65	54	54	54	49
Oakland					
Salary and Benefits	162	165	165	165	165
Travel	15	15	15	15	15
Support Services	0	0	0	0	0
Other Related Expenses	10	59	59	59	59
Total	$ 187	$ 239	$ 239	$ 239	$ 239
Full Time Equivalents	2	2	2	2	2

Figure II-3h.1
Program Direction Performance Summary, EWD

II. Funding Table: (continued)

	FY PY Comparable Appropriation	FY CY Budget Request	FY CY House Mark	FY CY Senate Mark	FY BY Budget Request
Other*					
Salary and Benefits					
Travel					
Support Services					
Other Related Expenses					
Total	$	$	$	$	$
Full Time Equivalents					
Headquarters					
Salary and Benefits	27,725	26,635	26,635	26,635	26,000
Travel	1,545	1,500	1,500	1,500	1,400
Support Services	2,470	2,370	2,370	2,370	2,300
Other Related Expenses	1,051	1,462	1,462	1,462	1,300
Working Capital Fund	4,254	4,554	4,554	4,554	4,600
Total	$37,045	$36,521	$ 36,521	$36,521	$ 35,600
Full Time Equivalents	273	254	254	254	248
Total Energy Research					
Salary and Benefits	33,258	31,180	31,180	31,180	30,165
Travel	1,946	1,865	1,865	1,865	1,715
Support Services	2,724	2,574	2,574	2,574	2,480
Other Related Expenses	1,522	1,981	1,981	1,981	1,819
Working Capital Fund	4,254	4,554	4,554	4,554	4,600
Grand Total	$43,704	$42,154	$ 42,154	$42,154	$ 40,779
Full Time Equivalents	340	310	310	310	299
Adjustments	-704a/				
Budget Authority	$43,000	$42,154	$ 42,154	$42,154	$ 40,779

a/ Use of prior year balances

* If the "Other" category is used, a detailed backup schedule must also be submitted that lists the specific sites included.

Figure II-3h.1
Program Direction Performance Summary, EWD

III. **Performance Summary**:	FYPY	FYCY	FYBY
Salaries and Benefits: - Streamlined organizational elements by eliminating four (third-tier) components (three in HQ and one at CHO) in FY 1997 and expect to consolidate several second-tier organizations at headquarters in FY 1998. Staffing was correspondingly reduced by 5 FTEs in CHO and 6 FTEs in HQ. Federal staff conducts independent peer reviews for approximately 300 projects in Energy Research, Fossil Energy and Energy Efficiency to determine quality of the science and its relevance to DOE's mission and the national science objectives. These energy projects may be curtailed somewhat due to reductions in other DOE research budgets. Federal staff reviews and implements nuclear safety requirements contained in the Price Anderson Amendment Act of 1988. Staff prepares policy and plans for laboratory infrastructure management as required by the Energy Policy Act of 1992, and prepared the science and technology sections of the National Energy Policy Plan.	$33,258	$31,180	$30,165
Travel: Instituted travel ceilings in accordance with Secretarial initiative to accomplish a reduction in travel costs. Teleconferencing was increased and the numbers of Federal staff reduced who had previously traveled for management and oversight purposes, primarily oversight of the Nntional laboratories.	$ 1,946	$1,865	$1,715
Support Services: Conducted training in FY FYPY for 68 FTEs for use of the new Energy Research wide area network (WAN) for more efficient transfer of science data between Headquarters and Field. Will train 52 FTES for use of the WAN in FYCY, and 45 FTEs in FYBY.	$2,724	$2,574	$2,480
Other Related Expenses: FYCY funding supports the purchase of a replacement copier at CHO, a scanner and two computer printers at ORO, and eight replacement personal computers at Headquarters. In FYBY, support for infrastructure at both Headquarters locations was reduced commensurate with lower staffing levels.	$5,776	$6,535	$6,419

Figure II-3h.1
Program Direction Performance Summary, EWD

IV. Explanation of Funding Changes from FY CY to FY BY:

Decrease of $1,015,000 in Salaries and Benefits is due to a Headquarters and CHO FTE reductions.	-$1,015,000
Decrease of $150,000 in Travel is consistent with Secretarial strategic alignment initiative.	- $150,000
Decrease of $94,000 in Support Services is due to the anticipated budget reductions in DOE research areas in FY 1998.	-$94,000
Net decrease of $116,000 is due to a decrease of $162,000 for infrastructure at Headquarters locations commensurate with lower staffing levels and an increase of $46,000 due to increased costs of printing services to be purchased through the DOE Working Capital Fund.	-$116,000
Total	-$1,375,000

Figure II-3h.1
Program Direction Performance Summary, EWD

Support Services	**FY 19PY ($000)**	**FY 19CY ($000)**	**FY 19BY ($000)**	**FY 19BY/FY 19CY Change ($000)**
Technical Support Service				
Feasibility of Design Considerations	$xxx	$xxx	$xxx	$xxx
Economic and Environmental and Environmental Analysis	xxx	xxx	xxx	xxx
Test and Evaluation Studies	xxx	xxx	xxx	xxx
Subtotal	$xxxx	$xxxx	$xxxx	$xxxx
Management Support Services				
Management Studies	xxx	xxx	xxx	xxx
Training and Education	xxx	xxx	xxx	xxx
ADP Support	xxx	xxx	xxx	xxx
Subtotal	**xxx**	**xxx**	**xxx**	**xxx**
Use of Prior-Year Balances	xxx	xxx		
Total Support Services	**$xxxx**	**$xxxx**	**$xxxx**	**$xxxx**

Figure II-3h.2
Other Related Expenses Schedule, EWD

Other Related Expenses	**FY 19PY ($000)**	**FY 19CY ($000)**	**FY 19BY ($000)**	**FY 19BY/FY 19CY Change ($000)**
Training				
Working Capital Fund	xxx	xxx	xxx	xxx
Printing and Reproduction	xxx	xxx	xxx	xxx
Rental Space	xxx	xxx	xxx	xxx
Software Procurement /Maintenance Activities/Capital Acquisitions	xxx	xxx	xxx	xxx
Other	xxx	xxx	xxx	xxx
Subtotal	**$xxx**	**$xxx**	**$xxx**	**$xxx**
Use of Prior-Year Balances	xxx	xxx		
Total	**$xxxx**	**$xxxx**	**$xxxx**	**$xxxx**

Figure II-3h.2
Other Related Expenses Schedule, EWD

i. Capital Operating Expenses & Construction Summary: This schedule, an expansion of section IV.a. of the old Key Activity Summary format, is required by all EWD funded organizations that fund construction and/or capital related items (see Figure II-3i). It summarizes all construction and capital-related operating expenses **at the program level for all three fiscal years**. Capital Operating Expenses include capital equipment (CE), General Plant Projects (GPP), most Accelerator Improvement Projects (AIP), and project related costs. Project related costs are conceptual design reports (CDR) and other project-related costs funded from operating expenses such as research and development, preparation of design criteria, safety analyses, and environmental documentation prior to project authorization. These other project-related costs are sometimes referred to as "Bridge" costs.

(1) The Capital Operating Expenses and Construction Summary schedule must separately list the total funding amounts for CE, GPP, AIP, project related costs, and each line-item construction (both operating & expense-funded) project by fiscal year. The Capital Operating Expenses section will include two additional columns that reflect the dollar and percentage from FYCY to FYBY. The Construction Project Summary section will include three additional columns to provide Total Estimated Cost (TEC), Previous Appropriated, and Unappropriated Balance data.

(2) **Detailed Breakouts for CDR, Bridge, & Major Items of Equipment costs**: To comply with the National Defense Authorization Act for FY 1996, **CDR** and "**bridge**" costs estimated to exceed $3 million must be separately identified by project in the detailed breakout section of the Capital Operating Expenses and Construction Summary.

Major Items of Equipment (MIE) must also be separately identified in the detailed breakout section provided. As a reminder, the funding threshold for all MIE is $2 million.

SAMPLE FORMAT

BIOLOGICAL AND ENVIRONMENTAL RESEARCH
CAPITAL OPERATING EXPENSES & CONSTRUCTION SUMMARY
(Dollars in thousands)

Capital Operating Expenses	FYPY	FYBY	FYCY	$ CHG.	% CHG.
GPP (total)	$ 3,500	$ 4,450	$ 4,450	$ 0	0%
AIP (total)	1,200	1,275	1,350	75	6%
Capital Equipment (total)	24,540	24,000	24,000	0	0%
Project Related Costs					
1 CDRs (enter total amount from page two)					
2 "Bridge" Costs (enter total amount from page two)					

Construction Project summary (both Operating and Construction Funded)

Project Number	Project Title	TEC	Previous Approp.	FYPY Approp.	FYCY Approp.	FYBY Request	Unapprop. Balance
94-E-339	Human Genome Laboratory, LBL	$ 24,634	$ 2,134	$ 15,800	$ 5,700	$ 1,000	$ 0
94-E-338	Structural Biology Center, ANL	14,876	3,881	6,700	4,295	0	0
94-E-337	ALS Structural Biology Support Facilities, LBL	7,882	582	4,700	2,600	0	0
94-E-335	BLIP Facility Upgrade	5,821	5,821	0	0	0	0
91-EM-100	Environmental Molecular Sciences Lab., PNL	207,900 a/	82,787	40,000	50,000	35,113	0
Total Biological and Environmental Research		$ 261,113	$ 95,205	$ 67,200	$ 62,595	$ 36,113	$ 0

a/ $28,500,000 FYPY-1 funding provided by Environmental Management Program.

Figure II-3i
Capital Operating Expenses & Construction Summary

SAMPLE FORMAT

CAPITAL OPERATING EXPENSES & CONSTRUCTION SUMMARY - BER (Cont'd)

Detailed Breakouts

CDRs - Exceeding $3 Million	Total CDR Cost	Previous Approp.	FYPY Approp.	FYCY Approp.	FYBY Request	Comp. Date
1 Project Title/Site #1	$	$	$	$	$	
2 Project Title/Site #2						
3 Project Title/Site #3						
Total (enter amount on page one)						

"Bridge" Costs - Exceeding $3 Million	Previous Approp.	FYPY Approp.	FYCY Approp.	FYBY Request
1 Project Title/Site #1: R & D, Environmental Doc.	$	$	$	$
2 Project Title/Site #2: Safety Analyses				
3 Project Title/Site #3: Environmental Doc., Safety Analyses				
Total (enter amount on page one)				

Major Items of Equipment (CE $2 Million and Above)	TEC	Previous Approp.	FYPY Approp.	FYCY Approp.	FYBY Request	Acceptance Date
1 MIE #1	$	$	$	$	$	
2 MIE #2						
3 MIE #3						
Total						

Figure II-3i
Capital Operating Expenses & Construction Summary

j. Comparability Matrix. This matrix summarizes all approved comparable transfers at the decision unit level of detail. A comparability matrix should be prepared for all approved transfers. Stub column entries should reflect the decision unit structure used in the FYPY and FYCY revised President's budgets. Column headings, across the matrix, should represent the approved FYBY budget structure. Dollar entries (in thousands) should indicate comparability transfers of funds from the FYPY and FYCY structures to the FYBY structure. **Separate schedules should be prepared for FYPY and** FYCY Amounts must be consistent with the control tables provided by the Office of Budget (Decision Unit Table and Comparability Transfer Table). A sample format for the FYBY Comparability matrix is provided in Figure II-3j.

Sample Format

DEPARTMENT OF ENERGY
FY 19BY CONGRESSIONAL BUDGET REQUEST
Organization Name
(dollars in thousands)

FY 19BY COMPARABILITY MATRIX

Program/Appropriation

NEW STRUCTURE

FY 19CY CURRENT STRUCTURE	FY 19BY CONG Request Decision Unit / FY 19CY Budget Request Decision Unit	Buildings and Community Systems	Industrial	Transportation	Multi-Sector	General Management	Program Support		Total
	Buildings and Community Systems	41,121					217		41,338
	Industrial		31,275	500			150		31,925
	Multi-Sector				23,242		100		23,342
	Policy and Management					550	1,177		1,727
	Total	41,121	31,275	500	23,242	550	1,644		98,332

NOTE: Reflect only those decision units where a comparability adjustment occurred. All funding for those decision units should be reflected in the totals.

Figure II-3k
Example of Comparability Matrix

k. Project Data Sheets.

(1) **General**.

(a) Project data sheets are required to explain and justify to Congress the need for real property capital improvements regardless of the funding source (operating or construction expense). They are the primary documents used to defend funding for construction projects throughout the budget formulation process. Project data sheets shall be developed and submitted for new project efforts and for any ongoing projects which require Congressional authorization and/or appropriation in the budget fiscal year.

(b) Project data sheets present the description, justification, and cost data for all capital projects **that exceed the dollar threshold of $2,000,000.**

(c) Include in the Total Estimated Cost (TEC) of a capital project all costs in connection with the addition and/or retirement of plant and equipment (including transferred equipment and materials), land, improvements to land, buildings (including permanently attached equipment), utilities, and initial movable equipment, such as machine tools, laboratory and office furniture, and equipment, necessary to outfit a building or group of buildings for operation. Exclude initial stocks of spare parts or other materials and supplies which are initially chargeable to inventories.

(d) Each project shall be assigned to the appropriate organizational component.

(2) **Project Accounting Requirements**.

(a) All new projects must proportionately share site overhead/landlord cost. It is important that project cost estimates include and reflect this full proportionate share of these indirect costs. Capital projects started after FY 1994 are affected by the following guidance:

> Cost Accounting Standards require that indirect costs be allocated to cost objectives in reasonable proportion to the causal and beneficial relationship of these costs to cost objectives. For purposes of allocating indirect costs to DOE construction/capital projects, this would mean that (in addition to fringe and organizational burden) an equitable share of all general and administrative and other site wide common support activities would be charged to all cost objectives, regardless of the type of funding. In most, if not all, instances, this would result in the application of the same overhead/indirect rate to both operating and construction/capital projects. However, this does not preclude the use of a different rate if there are cost centers/costs which are material and do not have a causal and beneficial relationship to construction/capital projects.

(b) The budgets for operating expenses (OE), plant acquisition and construction (PL), and capital equipment not related to construction (CE) should be prepared so as to be consistent with the accounting treatment as prescribed in DOE O 534.1 and the DOE Accounting Handbook, Chapter 10, PLANT AND CAPITAL EQUIPMENT, Section 1. INTRODUCTION, Paragraph 1.d. Capitalization Criteria. DOE capitalization criteria requires that all property, plant and equipment with an initial acquisition cost of $25,000 or more and an estimated service life of two years or greater shall be capitalized and reported in the financial statement. Below are guidelines to be used in simplifying the determination as to where the acquisition of land, facilities, or equipment should be budgeted:

1 Items of capital equipment for which the Department will retain title, which cost $25,000 or more, have an expected service life of two years or more, and are not required to complete a construction project, shall be budgeted for as capital equipment not related to construction.

2 Items of capital equipment not related to construction required for experimental projects shall be budgeted from operating expenses if it is expected that the equipment will be destroyed during the experiment or will have no further value other than scrap upon completion of the experiment.

3 Budget plant and capital equipment funds for the following:

a All land acquisition (fee or easement).

b All constructed facilities and capital equipment necessary to provide a complete and operable facility.

c *Exception*. Facilities or equipment which meet the definition of research and development, and which normally have an estimated life of less than three years, may be budgeted for as operating expenses. Regardless of the budget source or classification of funds, R&D facilities and equipment that meet the capitalization criteria shall be capitalized.

(c) The leasing of facilities and equipment is permissible when it is in the best interest of the Government to do so.

1 *Lease With Option to Purchase.* When a lease contains an option to purchase, the lease payments may have to be capitalized.

2 *Lease Purchase Agreements.* Agreements which provide for transfer of title at the end of the lease term or for the transfer of title by exercise of an option at a nominal sum unrelated to the value of the property at the time the option is exercised, are considered installment purchases. Such installment purchases have to be capitalized.

(d) For additional clarification, refer to the definitions for Budget and Reporting Classifications 35, Capital Equipment Not Related to Construction, and 39, Plant Acquisition and Construction.

(3) **Preparation of Project Data Sheets**.

(a) DOE is required by law to obtain Congressional authorization for the appropriation of funds. Insofar as practical, the development and review of the project to be submitted to the Congress for authorization will be undertaken as an integral part of the regular budget process, both internally and through OMB. Project data sheets shall be prepared and submitted for all projects requiring authorization or appropriation in the budget year.

(b) A data sheet should be an objective document written from the standpoint of the Department as a whole rather than as one segment of the Department. Personal pronouns, building and area numbers, identification of staff personnel, and unsubstantiated value judgements should not be used. A data sheet should be self-sufficient. It should avoid the use of technical terms that have a special connotation in industry or science, and should not depend on the reader having access to other documents.

(c) The scope of the project shall be set forth in the data sheets in detail sufficient to permit a careful review and evaluation of the project. The data sheet items should not, however, be stated so precisely as to preclude the exercise of appropriate latitude by the manager in the actual design and construction of the project, as described in the data sheet, after authorization and appropriation of the funds.

(d) Project data sheets are to be prepared as illustrated in Figures II-3k.1, Significant Changes and II-3k.2, Project Data Sheet. These examples are for illustration purposes and the amount of space or length required should be adjusted for full presentations under each section. The examples contain all the data elements required in actual project descriptions.

1 A project data sheet shall be submitted for each new plant or facility and for each addition involving the construction, modification, or improvement which is estimated to cost $2,000,000 or more. Project data sheets for "Operating Expense Funded" projects with a total estimated cost of $2 million or more shall also be prepared. Capital projects costing less than $2,000,000 shall be requested and funded as GPP.

2 Data sheets for the multiprogram general purpose facilities program will be submitted for those projects selected by the multiprogram general purpose facilities review committees.

3 The construction of a number of similar or related units, under a specific program, may be submitted on a consolidated basis as a single project, i.e.,

the construction of a group of facilities for a specific reactor. Consolidated project data sheets shall identify subprojects as follows:

a Separate subprojects shall be used to identify items that are not at a single location.

b Separate subprojects shall be identified for items at the same location that require separate Architect and Engineering (A-E) work, or for which initial funding will be requested in different fiscal years, or where funding will be the responsibility of different decision units, or that have construction activity start or end dates in different fiscal years.

c Project data sheet for a consolidated project will identify as subprojects items that would have required designation as a subproject based on the criteria of subparagraph k.(3)(d)3 b above when changes in the funding, schedule, or actual performance dictate.

(e) An additional line in the Heading will follow the fiscal year and budget cycle identification line if Projects transmitted in the last budget to Congress have changed data or text.

1 The Decision Unit title that the Project supports will be shown in the Heading. If the Decision Unit title is subordinate to a Program title, the Program title (and any additional intervening titles) will be shown above the Decision Unit title.

2 Continuation information will be included on every page after the first page. The designation (Continued) will be appended to all continuation information.

a The Heading will appear only on the first page.

b A two-line identification consisting of Section 1. and 2. with a top and bottom ruler will be on every page after the first.

c The Section Number and Section Title and Subsection letter and Subsection Title will be the first line after the project continuation identification.

3 The Heading in the Significant Changes Sheet is identical to that in the Project Data Sheet with the exception of the line indicating that changes from the last Congressional submission have a redline. The Significant Change Sheet should contain only changes from the previous submission to the Congress that are **significant**. If needed, the heading will include the notation that tabular dollars are in thousands and narrative material is in whole dollars.

(f) In even numbered budget years, Projects funded from the National Defense Budget Function (050) will append data for the BY+1 in brackets (for example, the budget year FYBY+1 request will show: FY BY/[FYBY+1] for column headings and $xx,xxx [$zz,zzz] for dollar amounts). However, brackets will not be used in the Heading.

(g) Information for Major Systems Acquisition (MSA) or Major Project (MP) projects will be in agreement with the project plan baseline document. Only directed changes (i.e., directed by Congressional action) or Energy Systems Acquisition Advisory Board (ESAAB) approved changes are to be identified.

(h) For Environmental Restoration (EM-40) projects under the Assistant Secretary for Environmental Restoration and Waste Management, the following definitions shall apply for each MSA unless a different precedent has been established:

1 Total Estimated Cost (TEC): This term will not be used for EM-40 projects.

2 Total Project Cost (TPC): The cost included in the most current EM-40 Five-Year Plan or in an approved Baseline Document which sums all previous costs plus projected costs for the next five fiscal years. The TPC shall include all associated Other Project Costs for this period. If certain projects which extend beyond the EM-40 Five-Year Plan have approved baselines in place, they shall be used in their entirety.

(i) Significant changes (project or subproject TEC, TPC, construction end date, or scope adjustments) are to be clearly identified.

1 Project changes between the present Project Data Sheet and the Project Data Sheet transmitted in the last budget to Congress will be explained in Item 8.

2 Figure II-3k.1 summarizing the major changes to a Project Data Sheet will be placed in front of the Project Data Sheet. The explanation of changes in Figure II-3k.1 should be limited to a single page. Any more extensive explanation of the changes should be placed in Item 8.

3 All elements of the project description (Item 8 of the Project Data Sheet) that have been added, deleted, or modified since the last budget to Congress will have a “Redline indicator” (a vertical line in the left margin).

(j) Footnotes should be used sparingly. Do not footnote within the text. It is distracting to have to leave the text to read the footnote. Include all necessary discussion in the text. Project TEC, TPC, and completion date require explanations in the narrative of Item 8 of the Project Data Sheet. Thus, footnotes on these three categories elsewhere are redundant and may be inconsistent.

(k) The following detailed instructions govern the preparation of project data sheets, Figure II-3k.2:

1 *Item 1, Title, and Location of Project*.

a Each project title must be unclassified.

b Project titles shall be sufficiently short and descriptive to permit ready reference and shall not be changed after a project number has been assigned.

c In typing project titles, an initial capital letter shall be used for the first word in the project title and for proper names.

d The location of the project shall be given. For consolidated project data sheets at more than one location, the term Various Locations shall be used. Do not show the predominate location in such cases.

e The funding program decision unit is indicated in the data sheet header. If the project is under consideration by more than one program, identify alternate funding programs in Item 1.

2 *Item 2a and 2b, Project Number and Funding Type.* New project numbers shall be issued by the **Budget Operations Division (CR-13)** for new projects in each budget year, showing the year, the organization, and the sequential number of the project which also indicates appropriation for organizations with multi-appropriations. Project numbers shall be assigned soon after receipt of data sheets at Headquarters. Only properly assigned numbers shall be used to identify projects. The type of funding for the project, either Operating Expense or Construction, will be shown in item 2b.

3 *Items 3a and 3b, Date A-E Work Initiated (Title I design start scheduled) and A-E Work (Title I and II) Duration*. Insert the fiscal quarter and year in which A-E work for Title I design began or is to be initiated and the duration of Title I and II design in months. Do not assume "start" of a budget year project prior to the start of FYBY. The most realistic dates possible should be shown based on the status of conceptual work, assuming availability of funds at the beginning of the budget year. For EM-40 projects only, items 3a and 3b should be titled "Date Assessment Phase Initiated" and "Duration of Assessment Phase" correspondingly.

4 *Items 4a and 4b, Date Physical Construction Starts and Ends.* Insert the date (fiscal quarter) construction activity started or is to be initiated and date which construction activity is expected to be completed. These dates shall be the earliest start date and the last completion date of all subprojects identified. Include dates for physical construction start and end, beneficial occupancy, completion of final punch list, and operational start dates in Item

8 below. For EM-40 projects only, items 4a and 4b should be titled "Date Cleanup Phase Starts/Started" and "Date Cleanup Phase Ends" correspondingly.

5 *Item 5, Previous Cost Estimate.*

a Insert the last Federal total estimated cost (TEC) and the Federal total project cost (TPC) which has previously been submitted to Congress. Escalation factors approved by the Office of Project and Program Management will be used in preparation of project cost estimates.

b If the project has not previously been submitted to Congress then the word "none" should be shown.

c EM-40 projects shall enter see TPC for TEC.

6 *Item 6, Current Cost Estimates.* Insert the current Federal total estimated cost (TEC) and the current Federal total project cost (TPC). TPC is further described in Item 12 (a). For projects that contain subprojects, the TEC shall be the sum of the TEC for all subprojects less any Non-Federal contribution(s). EM-40 projects shall enter see TPC for TEC.

7 *Item 7, Financial Schedule.* **OMB requires all agencies to fully fund fixed asset acquisitions. To support this policy, all DOE program organizations shall request budget authority necessary to fully fund current and proposed construction projects in the budget year. Obligations in the budget year shall equal the amount of appropriations that would have been requested if the incremental funding policy were still in place. In addition, project data sheets will be submitted even if no funds are requested in FY 1999 for projects that will have obligations in FY 1999 or will have projected FY 1997 end of year carryover balances of $10 million or higher.** The tabulation should be consistent with the project schedule dates as shown in Items 3a, 3b, 4a and 4b. The total of the appropriation plus adjustments columns, the obligations column, and the costs column shall be equal and agree with the TEC in Item 6, "Current Cost Estimate." Financial schedules should reflect all funding for the project from its beginning and must be reconciled to the Departmental Primary Accounting System (DPAS), i.e., Financial Information System (FIS) and Funds Distribution System (FDS).

a Section 7 of Figure II-3k.2 is an example of a financial schedule as required for all projects.

b The FIS Plant History report only provides a total of five year segments (four individual years previous to the current execution year and an aggregate amount for all other years) thus, amounts for years earlier than the budget year minus 6 years (BY-6) are combined.

c The Appropriation and Adjustments columns for all past years and the current execution year must be identical to the Office of Budget FDS Base Table amounts for the Project.

d Footnotes must be shown for all amounts in the Adjustments column. A reference to a reprogramming must identify the Office of Budget Reprogramming Number. Other adjustments must cite the authority (supplemental or rescission, the Public Law; deferral, the Presidential deferral number; etc.). If multiple adjustments occurred in a year, the footnote must list the individual amounts and authorities. Additionally, do not footnote the year, place the footnote on the amount being explained.

e The Obligations and Costs columns for all past years must be identical to the FIS Plant History Report amounts. The obligations column for the current execution year will be identical to the latest FDS Approved Funding Program (AFP) amount.

f The current execution year Obligations and Costs and the Appropriation, Obligations, and Costs for the budget year and beyond will be in agreement with the approved baseline for MSA and MP projects.

8 *Item 8, Project Description, Justification and Scope*. This item should state clearly and concisely the essential features of the project, indicating whether it is a new facility, modification of existing facilities, or addition to existing facility. In describing facilities, code words, if used, should be identified as such. Any unusual technical terms should be explained when used in project descriptions. Describe the following physical aspects as applicable. The description should read such that easy correlation can be made with the cost estimate given in Item 9. If the project contains subprojects, describe each subproject using the same aspects after a general introduction of the overall project.

a If the data sheet shows both a previous cost estimate and a current cost estimate in lines 5 and 6 of Figure II-3k.2 explain the factors involved in determining the revised estimate. The explanation shall also be provided on the Significant Changes cover sheet, Figure II-3k.1.

b Describe improvements to land and, where this item constitutes a major portion of the project, include information such as the approximate length, width, and types of roadways, approximate capacities of parking areas, and any proposed drainage structures and fencing.

c Describe each building or building addition, including approximate floor plan dimensions, gross area, number of stories, story heights,

basement, if provided; types of construction and reason for using such if not obvious; types of heating and air-conditioning; capacities of cranes and any design, fabrication, or construction features which are unusual or specialized and have a significant impact on the cost estimate, such as shielding, protective construction, hot cells, or special ventilation systems, environmental protection systems, and fire protection systems.

d Describe other *structures*, such as pits, tunnels, towers, bunkers, stacks, and other enclosures not included in subparagraph (h)3 above.

e Describe types of *utilities* to be provided, such as water, sewer, and power, and where this item constitutes a major portion of the project, include information such as the length and size of the utility lines.

f Describe any *special facilities*, such as accelerator components, movable shielding, vacuum systems, processing piping, power or controls, reactor vessels, inert gas, hydrogen or purging systems, or cryogenic systems.

g Describe any standard equipment included in this project, such as office and laboratory furniture and equipment, hoists, and machine tools.

h Describe any computer system or component of a computer system having a total estimated purchase cost of $2,000,000 or more. A brief justification and explanation of the rationale for utilizing construction funds shall be provided.

i For those projects not receiving full appropriation in this year's budget, provide a brief description of that portion of the scope to be accomplished with this year's appropriation.

j For projects that contain Subprojects the following applies:

i After the subparagraph letter, provide a two-digit Subproject Number (01-99) preceding the Subproject Title and Location. The Subproject Number will be used to provide Obligational Authority in the Approved Funding Program (AFP) and to report Obligations and Costs to FIS.

ii Subproject Numbers will not be reused or changed during the life of the Project

iii Subproject titles shall not be changed.

iv Provide the Subproject Total Estimated Cost (TEC), the cumulative Appropriation for all previous years, the PY Appropriation, the CY Appropriation, the BY Appropriation,

the cumulative outyear Appropriation to complete the Subproject and the construction activity start and end dates with each subproject description as follows:

TEC	Prev.	FYPY	FYCY	FYBY	Outyear	Const. Start -- Comp. Dates
$61,499	$xx,xxx	$xx,xxx	$12,156	$3,700	0	1st Qtr PY-2 - 2nd Qtr BY+3

Elements of the funding profile and construction schedule that changed from the last data sheet submitted to the Congress shall be underlined and a Redline should appear in the left margin. Explain the changes in the text description of the subproject. For EM-40 Subprojects, modify the TEC heading to read - TPC and enter the Subproject TPC.

v Provide the date Subproject construction activity starts and the date construction activity ends. If any date has changed from the date previously transmitted to Congress, provide an explanation in the description of the Subproject. For EM-40 Subprojects, (substitute the word cleanup for construction) the completion date will be the current Five-Year Plan end date or approved baseline end date, as appropriate.

vi Subproject data will be reconciled with total Project data.

vii The sum of the TEC for all Subprojects will equal the total line item cost on line j of Item 9, and the Total on line a.1.(a) in Item 11 of the Project Data Sheet (See Figure II-3k.2). For EM-40 Subprojects, the TPC for all Subprojects will equal the TPC in Item 6 and line a.2.(i) of Item 11 of the Project Data Sheet.

viii The sum of the Appropriation amounts for each fiscal year for all Subprojects will equal the sum of the Appropriation and Adjustment amounts in the Financial Schedule for the fiscal year.

ix The sum of the Appropriation amounts for the previous fiscal years for all Subprojects will equal the sum of the Appropriation and Adjustment amounts in the Financial Schedule for all fiscal years previous to the PY.

x The dates in Items 4a and 4b of the Project Data Sheet will be the earliest construction (or cleanup for EM-40 projects) start date and the latest completion date for all Subprojects.

xi Completed subprojects are to remain in the Project Data Sheet with its funding profile. To conserve space, the narrative

description should be removed the year following the year it was reported completed to Congress.

k Describe the research, development, or production program which is underway or planned, including the relationship of the proposed facility (both as to need and timing) to the program objectives and schedules.

i State the criteria which determined the size or scope of the project, such as volume of production, storage capacity, number of persons to be housed, and space requirements for research.

ii To the maximum extent feasible within security limitations, data sheets for projects involving production increases should indicate the present production rate or capacity and the change proposed. If the project is deemed to be an intermediate phase of a long-range program, indicate its relationship to the foreseeable planned capacity. If a production facility, state annual capacity and basis therefore, i.e., 1-shift, 2-shift operation, 5-day week, 6-day week. When inclusion of capacity involves "Top Secret" data, indices shall be used to the maximum extent practicable, or, if not practicable, the information shall be submitted separately to the program office concerned.

iii If the purpose of the project is to replace existing facilities, explain fully the circumstances which make replacement necessary and the disposition to be made of the replaced facilities.

iv Indicate that existing facilities have been reviewed to determine that the need cannot be met by modification of existing facilities. This is of particular importance in the case of radioactive contaminated facilities where decontamination and decommissioning costs are factors.

v State the reasons for the proposed timing of the completion of the project and the effect on the program if the project is deferred or not authorized.

vi To the maximum extent practicable, justifications should contain data on the economics of the project including the basis for calculating savings and payout. In computing savings, comparative cost estimates shall include the cost of depreciation of the facility. Justifications can often be strengthened by reference to alternatives and to the consequences of disapproval.

vii State if costs include overhead of an off-site contract laboratory operated by a university or other institution, the reasons for

including such overhead and the method by which the amount of such overhead was determined.

viii The project data sheet shall state the estimated gross annual cost (excluding depreciation) for operating the facilities upon completion, less any offsetting reductions which are applicable. In the case of replacement facilities, include comparative data for the facilities being replaced.

[1] For production type facilities and power producing facilities, the first full-year's operating costs, maintenance costs, and the annual costs at equilibrium should be set forth. Gross annual costs, revenues, or other offsetting reductions, and new annual costs should be shown.

[2] For research or development facilities, including new research machines, show separately the operating costs, maintenance costs, the total cost of the research or development program to be carried out, and the incremental program cost related to occupation of the new building.

[3] In all cases, the basis for these estimates of annual cost for operations and maintenance should be included.

l Include two items of performance measurement data at the appropriate (project or subproject) level:

i Indicate what program planning objectives the project (or subproject) benefits/supports, and

ii Indicate the type and amount of project (or subproject) work to be completed during the budget year in quantifiable terms.

9 *Item 9, Details of Cost Estimate.*

a This section of the data sheet consists of an estimate for each of the account classifications listed in subparagraph c below. Under each of the classifications give a breakdown of the costs, indicating significant units and costs wherever possible. Include all classifications. Enter zero dollars for classifications not applicable to the project. All costs should be presented in current year dollars, escalated to the midpoint of construction.

b General administrative and other indirect costs, properly charged to the project, shall not be shown as a line item but shall be prorated among the various elements of costs. Also, the estimated costs of construction management services by private firms shall be similarly prorated among

the various elements of construction costs. All the account classifications shall be listed even if no dollar amount is applicable. If it has been determined that the project will be administered under an "off-site" contract with a university or other institution, and that the institution will be reimbursed for overhead in connection with such administration, a memorandum entry shall be included indicating the estimated amount of such overhead. The costs for preparing system design descriptions or any comparable technical documentation are to be budgeted for and costed to operating expense or construction consistent with the treatment of related expenditures, e.g., documents which are accomplished for conceptual design are charged to operating cost while those performed for Titles I and II are charged to construction. The costs for preparing environmental documentation shall be budgeted for and costed to operating expenses.

i Unit cost per square foot or cubic foot for buildings or other construction shall be computed on the basis of gross areas and shall exclude the amount included in the estimate for contingencies. Unit costs should not be more precise than warranted by the status of design.

ii The items to be shown in this section of the data sheet should include all pertinent data on quantities and unit costs. Unusual unit costs, engineering design, and inspection or contingency rates should be explained in notes.

iii A statement shall be included as a note at the end of the estimate to show the basis for the estimate, e.g., "conceptual design is complete, Title I design is 25 percent complete."

iv Explanatory notes shall be provided to indicate reasons why certain unit costs may be out of the normal range, such as: cost for special isolation requirements; costs related to speedup of construction showing hours per week on which estimate is based; and factors affecting the contingent amount.

v Actual costs in the narrative should be in whole dollars, tabular actual costs should be in thousands of dollars.

vi Escalation rates should be explicitly stated. When the rates are significantly different from the guidance provided in the Budget Call, a thorough explanation shall be provided.

c The account classifications to be used, together with explanatory notes, are provided below:

i *Design and Management Costs*:

[1] *Engineering Design and Inspection Costs as an Approximate Percentage of Construction Costs.* Enter EDI costs and compute the approximate percentage of total construction costs in Item 9.c. rounding off to the nearest tenth of a percent. Include costs for safety analysis reviews made after completion of conceptual design report. Record the cost of design, drawings, and specifications (DDS) on Figure II-3k.2, Item 9.a.1., as shown.

[2] *Construction Management Costs.* Report costs for those services provided by the organization responsible for management of the construction effort during Title I and Title II design and continuing through completion of construction. Construction management services are further defined in DOE 4700.1 and DOE 6430.1.

[3] *Project Management.* Report costs for those services provided to the DOE on a specific project, beginning at the start of design and continuing through the completion of construction, for planning, organizing, directing, controlling, and reporting on the status of the project. Compute the approximate percentage of total construction costs in Item 9.c. rounding off to the nearest tenth of a percent

ii *Land and Land Rights.* Provide a breakdown identifying each site to be acquired, the acreage or square miles involved, unit cost, and total cost or the cost of each land right acquired. See DOE 4300.1B, REAL PROPERTY AND SITE DEVELOPMENT PLANNING, for regulations concerning the acquisition of real property.

iii *Construction Costs.*

[1] *Improvements to Land.* Indicate the types of improvements to be made and total cost. Where this sub-item constitutes a major portion of the project, it should be expressed in terms of units, unit costs, and total cost, such as ___miles of road at $___ per mile.

[2] *Buildings.* List and identify each building or building addition to be constructed or existing building to be modified, showing gross square feet, unit cost, and total cost. If the unit cost is unusually high, provide an explanatory note.

[3] *Other Structures.* List and provide costs for each major other structure described in Item 8 of the Project Data Sheet (see subparagraph k(3)(k)8 d).

[4] *Utilities.* List the types of utilities described in Item 8 of the Project Data Sheet (see subparagraph k(3)(k)8 e) and the total cost. Where this subitem constitutes a major portion of the project, units, unit costs, and total costs should be shown.

[5] *Special Facilities.* Identify major engineered equipment, and special systems, as described in Item 8 of the Project Data Sheet (see subparagraph k(3)(k)8 f). Where major equipment components identified under "special facilities" appear to be standard in nature but are listed as special because, for example, they actually require special engineering and/or fabrication to meet requirements, an explanation of the special nature of the equipment should be included.

iv *Standard Equipment*. List and provide costs for the major items of "off-the-shelf" equipment and furnishings, requiring a nominal engineering effort, as described in Item 8 of the Project Data Sheet (see subparagraph k(3)(k)8 g). Costs shall include any engineering effort required.

v *Major Computer Items.* List and provide costs for each major computer item as described in subparagraph k(3)(k)8 h.

vi *Removal Cost Less Salvage*. Include removal costs less salvage incident to the replacement of plant and equipment applicable to the project. Separate projects shall be established to budget and account for removal costs and salvage incident to the retirement of plant equipment which is not to be replaced.

vii *Design and Project Liaison, Testing, Checkout, and Acceptance*. The cost of assisting in the design and development of equipment (not to be confused with start-up costs).

viii *Contingency at Approximate Percentage of Above Costs.* Compute and indicate a contingency amount as a percentage of all above costs, rounding to the nearest percent. This contingency is provided to cover unforeseen and unpredictable situations and shall not provide for increasing the scope of the project. The amount of contingency will depend on the status of design and complexity of the project.

ix *Total Line Item Cost*. Add contingencies to subtotal.

x *Non-Federal Contribution*. Non-Federal funds from other sources that are considered capital funds contained in the Total line item cost.

xi *Net Federal Total Estimated Cost (TEC)*. The Federal cost net of non-Federal contribution. This is the TEC shown in Item 6.

10 *Item 10, Method of Performance.* Indicate the type of contracting arrangements contemplated, using the following paragraphs or combinations of parts of these paragraphs as a guide:

a Design and inspection shall be performed under a negotiated architect or engineer contract. Construction and procurement shall be accomplished by fixed price contracts awarded on the basis of competitive bidding.

b Design and inspection shall be performed by the operating contractor. To the extent feasible, construction and procurement shall be accomplished by fixed price contracts and subcontracts awarded on the basis of competitive bidding.

11 *Items 11 and 12*. All project data sheets shall contain an item 11 and an item 12. Item 11 shall contain the financial schedule and item 12 shall contain the narrative material associated with the financial schedule. Items 11 and 12 shall be prepared as illustrated in the sample Figure II-3k.2, using the amount of space required for presentation under each section. If the project includes subprojects, attach a page in the format of Sections 11 and 12 for each subproject. Aggregated data should be supplied in Section 11 and 12 of the data sheet.

12 *Detailed Instructions In Completing Items 11 and 12*. The cost estimates in item 11 are to be developed using the general guidance provided below. Item 12 shall parallel the costs detailed in item 11 with a narrative justification and explanation. The narrative shall include a brief description of each item in 11, its cost, the basis for operating expense funding and a schedule for accomplishment of the item. It should include the estimated start and completion dates and relevant project interface dates.

a *Total Project Costs (item 11(and 12).a)*.

i *Total Facility Costs (item 11(and 12).a.1)*. This section shall contain all those costs which are directly related to construction of the facility.

[1] *Line Item (item 11(and 12).a.1.(a))*. The line item costs must agree with the TEC before offset for Non-Federal contribution in Item 9.j.

[2] *Plant Engineering and Design (item 11 (and 12).a.1.(b))*. Include any operating expense engineering and design costs, exclusive of the conceptual design costs identified in subparagraph ii [2] below, prior to construction funding availability. These are sometimes referred to as "bridge funds."

[3] *Operating Expense Funded Equipment (item 11(and 12).a.1.(c))*. Any equipment, system, component, or other item which is funded from operating expenses for the direct use of the construction project or is required to make the facility or experiment complete and operable should be included. A narrative justification should be included to explain the reasons for such items and examples of items to be funded in this manner.

[4] *Inventories (item 11(and 12).a.1.(d))*. Any inventories which are necessary to put the facility into use should be included.

[5] *Total Facility Cost (Federal and Non-Federal) (item 11(and 12).a.1.(e))*. Total items identified in i through iv above.

ii *Other Project Costs (item 11(and 12).a.2)*. All estimated costs shall be escalated to the year of planned expenditure. Actual costs shall be shown when incurred.

[1] *R&D Necessary to Complete Construction (item 11(and 12).a.2.(a))*. Any construction project which requires the conduct of a Research and Development program directly prerequisite to its specific design and construction features and for which R&D funds are included in the operating expenses appropriation request shall include the total cost by fiscal year for such R&D.

[2] *Conceptual Design Costs (item 11(and 12).a.2.(b))*. Indicate the cost of the conceptual design and Conceptual Design Report (CDR).

[3] *Decontamination and Decommissioning (D&D) (item 11(and 12).a.2.(c))*. Costs associated with removal of hazardous material (typically radioactive or chemical material) from facilities, soils, or equipment by washing, chemical action, mechanical cleaning, or other remediation techniques. Also

include costs associated with decommissioning (demolition, dismantling, and removal, see DOE Accounting Handbook Chapter 21).

[4] *NEPA Documentation Costs (item 11(and 12).a.2.(d))*. All costs of complying with NEPA 1969 including: EAs, EISs, permitting actions, and site characterization.

[5] *Other Project Related Costs (item 11(and 12).a.2.(e))*. Any other costs directly related to the project that occur on a one-time basis, such as start-up costs, and training should be listed along with a narrative explaining and justifying each cost.

[6] *Total Other Project Costs (item 11(and 12).a.2.(f))*. Total the project costs identified in [1] through [5] above.

[7] *Total Project Costs (item 11(and 12).a.2.g))*. Total the costs in i [5] (Item 11.a.1.e) and ii [6] (Item 11.a.s.f) above including any Non-Federal contribution.

[8] *Non-Federal Contribution (item 11(and 12).a.2.(h))*. Include Non-Federal funds from other sources that are considered operating funds and any Non-Federal capital funds identified in Item 9.j.

[9] *Net Federal Total Project Cost (TPC) (item 11(and 12).a.2.(i))*. Total project cost less Non-Federal contribution.

[10] The total costs in Item 11 on line a.1.(a) will be the same as the costs in Item 9 on line 9.i. For EM-40 projects, the TPC by year in Item 11 in line a.2.(i) will equal the costs by year in Item 7.

b *Related Annual Cost*. This section should include the costs directly associated with the operation and maintenance of the facility. An estimate of the annual cost (Item 11b) and a narrative explanation (Item 12b) should be included. Indicate when the annual cost will begin to be incurred. The annual cost, which will represent average per year over the useful life, should be escalated to the first year in which the cost will be incurred. Any significant variances in the annual cost estimates year to year should be discussed in the narrative. For example, there may be planned purchase of a major item of equipment which shall substantially change the annual costing later or make a significant change in the mode of operation. Any significant variations in the annual costing rates or the preceding items should be footnoted. For example, the procurement of a new nuclear reactor core on a very

infrequent basis would greatly increase the annual capital equipment cost rate for a facility. These deviations in costs should be segregated from the annual cost rate. Indicate the estimated useful life of the facility (years).

i *Facility Operating Costs (item 11(and 12).b.1)*. The estimate should include the annual costs to operate the facility including cost of labor and materials. The narrative should include:

[1] The staff years of effort required to operate the facility, and

[2] A statement indicating whether it does or does not replace any other facility. If a replacement facility, provide total, not incremental, annual costs.

ii *Facility Maintenance and Repair Costs (item 11(and 12).b.2)*. Include all non-construction maintenance efforts and repair. In the narrative, specify the staff years of effort required to maintain and repair the facility.

iii *Programmatic Operating Expenses Directly Related to the Facility (item 11(and 12).b.3)*. Include programmatic effort which relies upon the direct and primary use of the facility. Provide a yearly estimate and narrative justification.

iv *Capital Equipment not Related to Construction but related to the Programmatic Effort in the Facility (item 11(and 12).b.4)*. An estimate of annual capital equipment needs not related to construction but related to the programmatic effort included in subparagraph k(3)(k)12 a should be included. The accompanying narrative should explain any expected installations of new programmatic related capital equipment.

v *GPP or Other Construction related to the programmatic Effort in the Facility (item 11(and 12).b.5)*. Include a yearly cost estimate and narrative justification of a General Plant Project or other expected construction related to programmatic effort included in subparagraph k(3)(k)12 b i.

vi *Utility Costs (item 11(and 12).b.6)*. All annual utility costs incurred to operate the facility.

vii *Other Costs (item 11(and 12).b.7)*. Any other expected annual costs should be listed with an accompanying narrative.

(4) **Questions concerning Project Data Sheets**. Question on the preparation of project data sheets should be directed to the Office of Budget, Budget Operations Division (CR-13).

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
(Changes from FYCY Corporate Review Budget Request are denoted with a vertical line in left margin.)

OTHER DEFENSE ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Materials Support
Supporting Services

1. Title and Location of Project:	Productivity Retention Program, Phases I-VI Various Locations	2a. Project No. 86-D-149 2b. Construction Funded

SIGNIFICANT CHANGES

- TEC decreased from $532,071,000 to $406,657,000 because of Savannah River mission change.
- TPC decreased from $631,585,000 to $486,632,000 because of Savannah River mission change.
- Completion date of 4th quarter 2001 changed to 4th quarter 1995 because of Savannah River mission change.
- Scope changed:

  Terminated the following subprojects: F Canyon Process Control Automation, SRS; Upgrade Assembly/Disassembly Monorails, SRS; Reactor Operations Monitoring System, SRS; Reactor Flood Control Pumps, SRS; Electrical Power Feeder Adjustment, SRS; FB-Line Liquid Recycling Cabinet, SRS; H Canyon Process Control, SRS; Automated Refueling System, RL; Improved Slug Processing Facilities, SRS.

  Added the following subprojects: Administrative Facilities and Utility Upgrade, SRS; Administrative Facilities, SRS.

  Modified the following subprojects: FB Line Productivity Retention, SRS; Replace Hot Canyon Cranes, SRS; FEED Materials Production Center Upgrade, OR; Automate Billet Handling Equipment, SRS; Airborne Radiation Removal, SRS; PFP Nitrate Handling System Upgrade, RL; Modernize Reactor Control Rod Electronics, SRS; Replace Thermal Diffusion Column, SRS; Foster Wheeler Boiler Retubing, RL; N Reactor V-11 Flow Control Valve, RL.

Figure II-3k.1
Project Data Sheet Significant Changes

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
(Changes from FY CYxx Corporate Review Budget Request are denoted with a vertical line in left margin.)

OTHER DEFENSE ACTIVITIES
(Tabular dollars in thousands. Narrative material in whole dollars.)

Materials Support
Supporting Services

1. Title and Location of Project: Productivity Retention Program, Phases I-VI
Various Locations

2a. Project No. 86-D-149
2b. Construction Funded

3a. Date A-E Work Initiated, (Title I Design Start Scheduled): 1st Qtr. FYPY-7

3b. A-E Work (Titles I & II) Duration: 84 Months

5. Previous Cost Estimate:
Total Estimated Cost (TEC) -- $532,071
Total Project Cost (TPC) -- $631,585

4a. Date Physical Construction Starts: 2nd Qtr. FYPY-6

4b. Date Construction Ends: 4th Qtr. FYBY+1

6. Current Cost Estimate:
TEC -- $406,657
TPC -- $486,632

7. Financial Schedule (Federal Funds): a/

Fiscal Year	Appropriation	Adjustments		Obligations	Costs
Previous	$ 121,085	$ -1,813	b/	$ 91,842	$ 45,019
PY-3	72,140	-7,500	c/	70,640	41,772
PY-2	81,780	-15,727	d/	58,820	60,406
PY-1	61,750	35,243	e/	71,769	80,321
PYxx	36,865	4,758	f/	90,327	92,498
CYxx	11,651	-8,575	g/	8,259	36,641
BYxx	9,300			9,300	30,000
BY+1	5,700			5,700	20,000

Figure II-3k.2
Project Data Sheet

a/ For consistency with Departmental accounting system, the Appropriations, Obligations, and Costs for fiscal years prior to FY PYxx have been changed from amounts on the last data sheet and fiscal years prior to FYPY-3 are aggregated.

b/ Reflects FYPY-6 sequester of $-1,100,000 and distribution of FYPY-5 general reduction of $-713,000.

c/ SR reprogramming.

d/ Reflects FYPY-2 $-1,277,000 sequestration and $-14,500,000 reprogramming.

e/ Reprogramming for accounting adjustment (91-R-25) and corrective action for funding irregularities (91-R-18).

f/ Reprogramming to correct funding irregularities (92-R-15).

g/ Reflects use of prior year balances as directed in Congressional action on FY CYxx request.

8. Project Description, Justification, and Scope

Due to Savannah River mission change, this project has been severely modified. The original completion date of 2nd Quarter of fiscal year BY+6 has been changed to 4th quarter FYBY+1, the TEC has been reduced from $532,071,000 to $406,657,000, and the TPC changed from $631,585,000 to $486,632,000.

This project provides for modernization and upgrading of existing nuclear materials production facilities at Savannah River, South Carolina; Fernald, Ohio; Oak Ridge, Tennessee; and Richland, Washington.

The purpose of the Productivity Retention Program is to increase the operating availability or efficiency of critical production components. The need for such improvements is driven by several interrelated factors.

First, production capacity has declined due to aging. The four plants encompassed by the program are all over 30 years old; an advanced age by nuclear standards. Old, worn-out equipment breaks and requires consistently increasing levels of repair. These repairs halt operations and inhibit productivity. In the case of nuclear facilities, the down time necessary to complete repairs is especially lengthy because repair work cannot begin until the broken unit has been decontaminated and replacement parts are not generally available “off-the-shelf.”

The problems of plant aging have been exacerbated by past fiscal restrictions. Nearly all of the components being upgraded by the Productivity Retention Program have been maintained in service well beyond their normal replacement point in the interest of holding down capital budgets. While this approach provided short-term financial relief, its secondary effects have now surfaced in the form of equipment failures, obsolescence, increased product reject rates, and rising operating costs.

Figure II-3k.2
Project Data Sheet

8. Project Description, Justification, and Scope (Continued)

Second, more stringent environmental release, radiation exposure, and nuclear safety standards have come into effect over the years. These standards are forcing the Department to either curtail production or find improved methods of operation. All of the Department's nuclear materials production reactors are currently shut down because of safety concerns, and it appears that reactor power levels could be restricted for a number of years even after they are returned to service. These restrictions will require that the plants run with greater efficiency in the future in order to compensate for lost production capability.

Finally, there is an increased need for cost-effectiveness. Production requirements are, in many cases, currently being achieved through the use of higher staffing and other non-optimal practices. These methods do not provide a satisfactory long-term answer. There is a limit to the number of shifts that can be worked in a week, and additional manpower raises operating costs. Improving the efficiency of the production plants will avoid the need for further expansion of the direct labor force with accompanying cost savings. Similarly, installing modern equipment and process control systems will significantly reduce production rejection ratios and scrap generation. While the Productivity Retention Program represents a substantial investment, this investment will more than be repaid through large future-year budget reductions.

Due to the size of the undertaking required and the need to tightly sequence construction with available production windows, work will be requested in phases. Detailed justification for those subprojects requiring funding in FY BYxx follows.

a. Subproject 01 - FB-Line Productivity Retention, SRS

TEC	Prev.	FYPYxx	FY CYxx	FY BYxx	Outyear	Construction Start - Completion Dates
$61,499	$xx,xxx	$xx,xxx	$12,156	$3,700	0	1st Qtr FYPY-4 - 2nd Qtr FYBY+1

Previous TEC of $70,500,000 reduced and completion date of 3rd quarter FY 1999 changed due to terminations based on reduced production requirements.

This Phase I and II subproject provides for replacement of existing plutonium finishing components of the FB-Line in Building 221-F. Phase I tasks include:

- Provide funding for a receipts assay facility.

Figure II-3k.2
Project Data Sheet (Continued)

8. Project Description, Justification, and Scope (Continued)

a. Subproject 01 - FB-Line Productivity Retention, SRS (Continued)

- Provide funding for the upgrading of the Solution Transfer Vacuum System.
- Reworking the C-T wet cabinet to improve ventilation and replace windows terminated due to reduced production requirements.
- Upgrading a portion of the mechanical line
- Upgrade the distributive controls system (DCS) in the FB-Line Central Control room.
- Improved fire protection terminated due to reduced production requirements.
- Replacing corroded ventilation duct work in the facility.
- Provide funding for an inert atmosphere for the special recovery feed preparation glovebox.

Phase II tasks include:

- Fire protection improvements
- Ventilation system improvements and upgrades

Tasks added:

- Provide a stainless steel process pipe duct on the FB-Line sixth level.
- Provide a plant and instrument air compressor system for the FB-Line.
- Provide for upgrading Halon suppression to the Mechanical Line cabinet, all facility wet cabinets and for 2 room systems.
- Assemble and test the Vessel Vent Vacuum System in the FB-Line test facility.
- Replace the existing inleakage panels with non-leakage panels on the Cation and Anion wet cabinets to improve ventilation control.
- Provide funding for the restoration of the area where the Blend Cabinet was to be installed on canceled Project S-4169.
- Provide a warehouse for the storage of the Blend Cabinet not installed on Project S-4169.

The proposed physical improvements will:

- Increase process reliability and utility to meet production objectives.
- Reduce radiation exposure of personnel to a level which is as low as reasonably achievable within the existing JL-Line facility.
- Improve contamination control to reduce assimilation risk.
- Improve containment of process liquid to reduce product losses and prevent release to the environment.
- Reduce dependence on procedural control for protection against assimilation.
- Improve product quality (reduce impurities).
- Reduce criticality risk.

Figure II-3k.2
Project Data Sheet (Continued)

8. Project Description, Justification, and Scope (Continued)

a. Subproject 01 - FB-Line Productivity Retention, SRS (Continued)

- Provide adequate fire protection.

b. Subproject 02 - Replace Hot Canyon Cranes, SRS

TEC	Prev.	FY PYxx	FY CYxx	FY BYxx	Outyear	Construction Start - Completion Dates
$28,400	$28,400	0	0	0	0	Construction completed 3rd Qtr FY PYxx

c. Subproject 03 - Feed Materials Production Center Upgrade, OR

TEC	Prev.	FY PYxx	FY CYxx	FY BYxx	Outyear	Construction Start - Completion Dates
$71,308	$71,308	0	0	0	0	4th Qtr FYPY-2 - 4th Qtr FYBY+1

Previous TEC of $73,650,000 reduced due to lower production requirement.

This multiphase subproject provides for the modernization of equipment at the Feed Materials Production Center (FMPC) which is utilized in the processing of uranium in support of production reactor operations at Savannah River. Phase I work includes:

- A new pressure swing absorption system to supply nitrogen to Plants 4, 5, and 9.
- New equipment and facilities for milling magnesium fluoride which has been used in casting enriched uranium derbies.
- Automation and modification of the refinery and Plant 8 sump systems used to control liquid waste streams.
- Acquisition of new pot and derby handling equipment.
- Installation of NO_x scrubbers on the scrap and chip pickling processes.
- Improved materials handling in the uranium reduction area.

Figure II-3k.2
Project Data Sheet (Continued)

8. Project Description, Justification, and Scope (Continued)

c. Subproject 03 - Feed Materials Production Center Upgrade, OR (Continued)

- Combining the Plant 9 zirconium decladding process with the Plant 8 aluminum process.

Phase II tasks include:

- A new furnace to oxidize uranium terminated due to reduced production requirements.
- Equipment to process metal spills terminated due to reduced production requirements.
- Renovation of the depleted slag milling system and improvements to the associated dust collection equipment terminated due to reduced production requirements.
- Upgrading of Plant 2 nitric acid recovery system.
- A new automated furnace for heat treatment of uranium ingots.
- Improved UF_4 packaging equipment terminated due to reduced production requirements.
- Modernization of the Plant 7 rail spur.
- A crusher and dust collection system in Plant 8 terminated due to reduced production requirements.
- Upgrades to the water treatment plant.

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Figure II-3k.2
Project Data Sheet (Continued)

8. Project Description, Justification, and Scope (Continued)

z. Subproject 26 - Materials Management, SRS (Continued)

TEC	Prev.	FY PYxx	FY CYxx	FY BYxx	Outyear	Construction Start - Completion Dates
$31,190	0	$31,190	0	0	0	1st Qtr FY PYxx - 2nd Qtr FYBY+1

Previous TEC of $13,300,000 increased due to additional facilities.
This project will provide SRS with a material management receiving and storage facility (MMRSF) and facilities to house construction supervision, crafts, storage requirements and special activities. Associated utilities are also included. These projects are grouped in seven categories; a material management receiving and storage facility, administration buildings, craft facilities, warehouse modifications, an employment processing facility, a paint and blast facility and support utilities.

aa. Subproject 27 - Administrative facilities, SRS

TEC	Prev.	FY PYxx	FY CYxx	FY BYxx	Outyear	Construction Start - Completion Dates
$15,400	0	0	0	0	0	1st Qtr FY CYxx - 4th Qtr FY CYxx

These buildings were originally built as GPP and added to this project via March 19, 1992 CPDS. These buildings consist of seven administrative office buildings. All buildings are single story, pre-engineered, and range in size from 16,000 to 20,000 square feet. Each facility includes a conference room, breakroom, hardwall offices and open bays for the inclusion of systems furniture, telecommunications, miscellaneous office furniture, landscaping and a government parking area.

Figure II-3k.2
Project Data Sheet (Continued)

1. Title and Location of Project:	Productivity Retention Program, Phases I-VI Various Locations (Continued)	2a. Project No. 86-D-149 2b. Construction Funded

9. Details of Cost Estimate

	Item Cost	Total Cost
a. Design and Management Costs		$ 86,148
1. Engineering design and inspection at approximately 32.3 percent of construction costs, Item c (Design, Drawings, and Specifications: $46,456)	$ 66,148	
2. Construction Management Costs	20,000	
3. Project management at 0 percent of construction costs (Item c)	0	
b. Land and land rights	0	
c. Construction costs		266,713
1. Improvements to land	$ 3,307	
2. Buildings	58,358	
3. Other structures	41,220	
4. Utilities	143,715	
5. Special Facilities	17,168	
d. Standard Equipment		10,388
e. Major computer items		2,945
f. Removal cost less salvage		13,912
g. Design and project liaison, testing, checkout and acceptance		551
h. Subtotal (a. through g.)		$373,839
i. Contingencies at approximately 6 percent of above costs		22,430
j. Total line item cost (Section 11. a. 1. (a))		$406,657
k. LESS: Non-Federal Contribution		0
l. Net Federal total estimated cost (TEC)		$406,657

10. Method of Performance

Method of performance will vary with location. At Savannah River, design will be performed by the operating contractor. Construction and procurement will be accomplished by the operating contractor, utilizing fixed-price subcontracts awarded on the basis of competitive bidding to the extent feasible. At Fernald, design and inspection will be performed with a negotiated architect-engineer contract. Construction and procurement will be accomplished by both cost-reimbursement and firm fixed-price contracts. At Richland, design and inspection services were

Figure II-3k.2
Project Data Sheet (Continued)

performed under a negotiated architect-engineer contract. To the extent feasible, construction and procurement will be accomplished by fixed-price contracts and subcontracts awarded on the basis of competitive bidding.

11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY PYxx	FY CYxx	FY BYxx	Outyears	Total
a. Total project costs						
1. Total facility costs						
(a) Line item (Section 9. j.) . . .	$ 227,518	$ 92,498	$ 36,641	$ 30,000	$20,000	$ 406,657
(b) Plant Engineering & Design. .		0	0	0	0	0
(c) Oper. Exp. funded equipment		6,250	0	0	0	6,250
(d) Inventories	0	0	0	0	0	0
(e) Total facility cost (Federal and Non-federal)	$ 233,768	$ 92,498	$ 36,641	$ 30,000	$20,000	$ 412,907
2. Other project costs						
(a) R&D necessary to complete project	$ 6,607	$ 0	$ 0	$ 0	$ 0	$ 6,607
(b) Conceptual design costs . . .	17,070	75	0	0	0	17,145
(c) Decontamination & Decommissioning (D&D)	0	0	0	0	0	0
(d) NEPA Documentation Costs	0	0	0	0	0	0
(e) Other project-related costs .	33,453	7,776	4,983	1,879	1,882	49,973
(f) Total other project costs . .	$ 57,130	$ 7,851	$ 4,983	$ 1,879	$ 1,882	$ 73,725
(g) Total project cost	$ 290,898	$ 100,349	$ 41,624	$ 31,879	$ 21,882	$ 486,632
(h) LESS: Non-Federal contribution	0	0	0	0	0	0
(i) Net Federal total project cost (TPC)	$ 290,898	$ 100,349	$ 41,624	$ 31,879	$ 21,882	$ 486,632

Figure II-3k.2
Project Data Sheet (Continued)

1. Title and Location of Project:	Productivity Retention Program, Phases I-VI Various Locations (Continued)	2a. Project No. 86-D-149 2b. Construction Funded

b. Related annual costs (estimated useful life of each facility--20 to 40 years)

1. Facility operating costs	$ 12,250
2. Facility maintenance and repair costs	0
3. Programmatic operating expenses directly related to the facility	0
4. Capital equipment not related to construction but related to the programmatic effort in the facility	700
5. GPP or other construction related to the programmatic effort in the facility	50
6. Utility costs	0
7. Other costs	400
Total related annual costs.	$ 13,400

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

1. Total facility costs

(a) Line item--Narrative not required.

(b) PE&D--None.

(c) Expense-funded equipment--Developmental SR hot canyon crane and prototype N Reactor drive turbine control system.

(d) Inventories--None.

2. Other project costs

(a) R&D necessary to complete construction--Includes cost associated with the two "FB-Line Productivity Retention" subprojects, the FMPC Upgrades, "Primary Pump Rehabilitation," and "Reactor Control Rod Electronics" subprojects.

(b) Conceptual design--No narrative required.

(c) Decontamination and Decommissioning (D&D)--None.

(d) NEPA Documentation--Includes studies for "FB-Line Productivity Retention," "Hot Canyon Cranes," "Thermal Diffusion Columns," "F Canyon Process Control Automation," "Automated Billet Handling," "Assembly/Disassembly Monorails," and "Reactor Operations Monitoring System" subprojects.

(e) Other project related costs are engineering support for preoperational test, checkout and startup. The FYPY-1 accounting adjustment of $31,083 includes costs associated with construction, award fee, capital equipment, consulting and design.

Figure II-3k.2
Project Data Sheet (Continued)

b. Related annual costs

1. Facility operating cost, when all facilities are operational 4th Qtr FYCY, average $10,000,000 for labor and $2,500,000 for materials per year. An average of 200 staff years will be required to operate all facilities. Subproject-01 replaces components of the FB-line in Building 221-F, SRS and will be operational 2nd Qtr FYCY; Subproject-02 replaced Hot Canyon Cranes, SRS and was operational 3rd Qtr FYPY-2; Subproject-03 upgrades Feed Materials Production Center, OR and was operational 4th Qtr FYPY; . . . Subproject-26 provides new Materials Management receiving and storage, SRS and will be operational 2nd Qtr FYCY; and Subproject-27 provides new Administrative Facilities, SRS and will be operational 4th Qtr FYCY.
2. Facility maintenance and repair costs for all facilities average $x,xxx,xxx for labor and $x,xxx,xxx for materials. A total of 74 staff years per year are required to maintain all facilities.
3. Programmatic operating expenses directly related to all facilities will be reduced an average of $234,789,000 per year due to the increases throughput and the reduced staff needed to operate and maintain the replaced, upgraded, and new facilities. The net programmatic operating expenses are $xxx,xxx,xxx per year.
4. Capital equipment cost not related to construction but related to the programmatic effort in all facilities will average $700,000 per year. Each programmatic equipment item is on a specific life-cycle replacement schedule.
5. GPP or other construction related to the programmatic effort will average $50,000 per year for all facilities.
6. Utility costs for all facilities will average $xx,xxx,xxx for electricity, $xx,xxx,xxx for water, etc.
7. Other costs will average $400,000 per year for all facilities.

Figure II-3k.2
Project Data Sheet (Continued)

l. Priority Ranking. The Priority Ranking is an important decision-making tool. It will be a principal vehicle for establishing total organizational funding and for making trade-off decisions between organizations. Given this importance, organizations must take care in properly preparing and submitting the Priority Ranking schedule. An example of the Priority Ranking schedule is attached (see Figure II-3l).

(1) Organizations must prepare a single ranking list covering all activities within the organization and must rank all requested budget authority (BA). Before starting priority rankings, organizations need to provide a detailed listing of all budgetary components that comprise the "base level." The base level is defined as 85 percent of the organization's target amount for FYBY. Programs and amounts composing the base level can be ranked as priority # 1. The base program should be segmented by decision unit. A decision unit is equivalent to a program line on the Office of Budget Control Table (i.e., Photovoltaics systems, Nuclear energy R&D, Basic energy sciences, etc.). Individual decision units can be funded at any level; however, an organization's total base amount cannot exceed 85 percent of the target. The organization's highest priority activities should be included in the base level.

(2) Following the base level, organizations should then list, in priority order, additional discrete budget items whose incremental funding amounts sum to the organization's total FYBY Budget Authority request. The column #7, "Increment Description & Performance Measures," should be used to further define what is included in the element, and if possible, the associated performance measures (Outputs and Outcomes).

(3) Organizations must support their priority ranking with a brief narrative on a separate sheet of paper which describes the rationale for the ranking. The rationale for ranking must be consistent with accomplishing strategic goals and objectives of the organization. Once rankings are submitted by an organization they will be used throughout the decision-making process as the program position. Ranking changes will be made only with the approval of the Chief Financial Officer.

(4) Organizations should use the ranking sheet to identify program funding requests above the target level (program planning level). If the organization chooses to submit packages above the target level, those packages should be discretely identified. (Note that the last entry on the Priority Ranking Schedule should be equal to the "Target" amount plus the sum of the "ABOVE TARGET" amounts).

(5) The Office of Budget has an automated Budget Ranking System (BRS) available for use on an IBM PC or compatible microcomputer. It offers several convenient features such as re-rank capability, cumulative totals by decision unit and

organization, 400 characters per element comment (Column #7), and an automatic indicator for organizational base program and target levels. The BRS is menu driven and user friendly. Use of the ranking system will permit diskette transmittal in lieu of hard copy and eliminate redundant keying of data. Organizations will be separately supplied with a BRS diskette and written instructions on how to use it. Questions concerning the BRS should be directed to the Office of Chief Financial Officer, Office Corporate Financial Systems.

DEPARTMENT OF ENERGY
FY 19BY CORPORATE REVIEW BUDGET
ORGANIZATION NAME
(dollars in thousands)

PRIORITY RANKING

(1) Package/ Packages	(2) Decision Unit Title	(3) Org. Rank	(4) FY 19BY BA Increment	(5) FY 19BY Decision Unit Cumulative	(6) FY 19BY Organization Cumulative	(7) Increment Descriptions & Performance Measures

EXPLANATION OF COLUMNS:

Column (1) -- A Decision Unit may be subdivided into packages for priority ranking. Show the number of the package and the total packages as a fraction - "Package Number/Total Packages"(i.e., Photovoltaics systems R&D [PV] package #2 of 5; note that there are three discrete funding packages for PV above the base level).

Column (2) -- Insert the Decision Unit Title.

Column (3) -- The organizational rank of each decision unit in the base level (85 percent of organizational target amount) will be "1" and will not indicate a priority order since the component decision units in the base level are considered to be of equal priority. Priority ranking of activities outside the base level will be identified by ranking numbers of "2" or greater.

Column (4) -- This is the incremental funding amount for the package identified.

Column (5) -- This is the cumulative funding amount for the entire Decision Unit/Control Table Line.

Column (6) -- This is the Organization's cumulative Total. (Note that the last entry should equal the "Target" amount.) If, however, the organization chooses to submit packages above the target level, those packages should continue the numbering scheme (i.e., PV package number 5 of 5 is for...above target) and be clearly identified as "ABOVE TARGET" in column #7.

Column (7) -- Describe what is being funded in this increment and associated outputs. No entry is required in the Base level.

Figure II-3l
Priority Ranking Schedule

4. **SUPPLEMENTARY JUSTIFICATIONS**. The following additional reporting requirements should be submitted along with the primary justification materials to the Office of Budget by the due date specified in the FYBY Corporate Review Budget Call. Each organization is responsible for determining which of the additional reporting requirements it needs to submit. This section also includes backup data requirements for budget briefings and internal Departmental oversight. Questions regarding any of the supplemental justification materials should be directed to the designated point of contact indicated in the POC Matrix provided in the front of this chapter.

a. Special Exhibits for Power Marketing. These exhibits are:

(1) **Transmission System Map (PMA)**. A map showing the parameters of the transmission system will be included in the Corporate Review Budget justification in the format shown in Figure II-4a.1.

(2) **Revenues and Receipts**. A summary of revenues and receipts for the fiscal years PY, CY, BY through BY+3 should be prepared using the format shown in Figure II-4a.2. Please note that the Gross Revenues minus Net Billing Amount should equal Total Proprietary Receipts.

(3) **Systems Statistics**. Statistics of the power systems will be presented in the format shown in Figure II-4a.3. Those stub entries which are not applicable to the organization preparing the exhibit need not be included in the array.

(4) **Power Marketed, Wheeled, or Exchanged by Project**. The power marketed, wheeled, or exchanged exhibit should be prepared in the format shown in Figure II-4a.4.

(5) **Pending Litigation**. A table showing the litigation involving each power marketing organization will be prepared in the format shown in Figure II-4a.5. This exhibit must be prepared even though no litigation is pending.

DEPARTMENT OF ENERGY
19BY CORPORATE REVIEW BUDGET REQUEST

TRANSMISSION SYSTEM MAP (PMA)
ORGANIZATION NAME

Figure II-4a.1
Transmission System Map (PMA)

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
POWER MARKETING ADMINISTRATION

REVENUES AND RECEIPTS
(Dollars in Thousands)

PMA name	FYPY	FYCY	FYBY	FYBY+1	FYBY+2	FYBY+3
Gross Revenues	$100,000	$150,000	$200,000	$210,000	$220,000	$230,000
Sale & transmission of electric energy (Site 1)	$ 70,000	$ 100,000	$120,000	$130,000	$140,000	$150,000
Sale & transmission of electric energy (Site 2)	$ 30,000	$ 50,000	$ 80,000	$ 80,000	$ 80,000	$ 80,000
etc (as applicable)						
Net billing amount credited as an offsetting receipt	-10,000	-20,000	-25,000	-25,000	-25,000	-25,0000
Total Proprietary Receipts	$ 90,000	$130,000	$175,000	$185,000	$195,000	$205,000
Percent of sales to preference customers	39%	38%	37%	37%	37%	36%
Energy sales and Power marketed (in billions of kilowatt hours)	7.5	7.5	7.5	7.5	7.5	7.5

Figure II-4a.2
Revenues and Receipts

DEPARTMENT OF ENERGY
19BY CORPORATE REVIEW BUDGET REQUEST
SYSTEMS STATISTICS

ORGANIZATION TITLE
(In thousands of dollars)

	19PY Actual	19CY Estimate	19BY Estimate
Generating Capacity:			
Installed Capacity (KW)	7,600,000	7,000,000	8,100,000
Leasing Capacity (KW)	----	----	----
Peak Capacity (KW)	8,000,000	8,500,000	8,520,000
Generating Stations:			
Generating Projects (No.)	12	12	12
Substations/Switchyards (No.) a/	270	265	265
Substation/Switchyards (KVA Capacity)	17,000,000	17,100,000	17,200,000
Available Energy:			
Energy Generated (Megawatt-Hours)	29,000,000	29,600,000	29,250,000
Energy Purchased (Megawatt-Hours)	6,000,000	6,100,000	6,500,000
Energy Available for Marketing (Megawatt-Hours)	35,000,000	35,700,000	35,750,000
Transmission Lines (Circuit Miles):			
800 KV	----	----	----
500 KV	94	94	94
345 KV	900	1,100	1,200
230 KV	6,000	6,000	6,300
161 KV	1,100	1.015	1,015
138 KV	300	300	300
115 KV	6,000	5,600	5,600
49 KV and Below	1,100	1,100	1,100
Total Circuit Miles	15,394	15,209	15,609

Figure II-4a.3
Systems Statistics

DEPARTMENT OF ENERGY
19BY CORPORATE REVIEW BUDGET REQUEST

POWER MARKETED, WHEELED OR EXCHANGED BY PROJECT

ORGANIZATIONAL TITLE

Project	State	No. Of Plants	Installed Capacity (KW)	19PY Actual 1/ Power (GHW)	19CY Estimated 1/ Power (GHW)	19BY Estimated 1/ Power (GHW)
Power Marketed						
Eklutna	Alaska	1	20,000	193	157	159
Snettisham	Alaska	1	47,200	75	92	101
Total, Power Marketed		2	67,200	268	249	260
Power Wheeled and Exchanged						
Eklutna	Alaska	1		28	40	40
Total, Power Wheeled and Exchanged		1		28	40	40

1/ Represents power delivered to customer in designated state.

Figure II-4a.4
Power Marketed, Wheeled, or Exchanged by Project

DEPARTMENT OF ENERGY
19BY CORPORATE REVIEW BUDGET REQUEST

PENDING LITIGATION

ORGANIZATION TITLE

Associated Electric Cooperative, Inc. v. Harris, No. XXXX-XX (D.D.C.; filed June 10, 1968) seeks declaratory and injunctive relief from the application of annual $1.6 million rate schedule transmission charge for service furnished plaintiff under contract. Plaintiff's Motion for Summary Judgement was granted by the District Court March 8, 1970. On April 18, 1971, the Court of Appeals for the District of Columbia reversed that decision, and remanded the case for resolution of issues of fact. Rehearing was denied December 16, 1974. (See Associated Electric Cooperative, Inc. v. Harris, XXX XXXX XXXX (D.C. 1974)). Plaintiff's Application for a Writ of Certiorari to the Supreme Court was denied November 16, 1975. On September 25, 1977, the District Court, following oral argument, dissolved the March 8, 1970 injunction and ordered plaintiff to begin immediate payment of the transmission charge and of one-half of the charges accrued since 1968. Formulation of an Order fixing trial issues and appointing a Special Master to take evidence is pending.

- Each Power Marketing Administration must complete this figure.
- If no pending litigation, tort action or contract claims actions are in process, enter the title of the figure and type "NONE" in the center of the page.

Figure II-4a.5
Pending Litigation

b. Energy Information Administration (EIA) Support Cost Estimates. House Report No. 98-886, which accompanied the Interior and Related Agencies Appropriation Act for 1985, established a requirement for the Department to specifically identify the amounts transferred to the Energy Information Administration (EIA) in support of other agencies and programs together with a description of that support. Therefore, Program Offices receiving support must complete the schedule shown on Figure II-4b and submit directly to the EIA Budget Staff, room 2H-055, on the same date draft budgets are due to the Office of Budget). This date must be met to allow EIA adequate time to incorporate this information into their budget. Questions on this requirement should be directed to EI-22 (see the Point of Contact Matrix provided at the front of this chapter).

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
SUMMARY OF SUPPORT FOR
ENERGY INFORMATION ADMINISTRATION

(dollars in thousands)

PROGRAM	FYPY Comparable	FYCY Requested /Enacted	FYBY Requested
Total	_____	_____	_____

Narrative: Provide a brief explanation of the support to be provided by EIA.

Dollar amounts should not include any funds provided by EIA in carrying out the activities.

Figure II-4b
EIA Support Summary

c. Facilities Summary (Interior Programs). The Interior Appropriations Subcommittee has requested that Interior funded DOE programs submit a Facilities Summary that lists and describes the facilities where their program activities are conducted. Programs not funded by the Interior and Related Agencies bill do not have to provide this report. Questions on this matter should be directed to the appropriate point of contact indicated in the POC Matrix in the front of this chapter.

(1) **Definition of a Facility**. For the purposes of this summary, a facility is defined as structural space containing pertinent equipment which is dedicated to a program or a process. It is not merely an investment in capital equipment. A facility may be either government-owned or contractor-owned. For example, the equipment, installed in the High Temperature Materials Laboratory (HTML), by itself would not constitute a facility. However, the HTML, including its equipment, is a facility. Conversely, the Oak Ridge National Laboratory at which the HTML is co-located, would not be a facility. National labs are not facilities, but portions of them may be.

(2) **Format**. The exhibit Figure II-4c shows the requested format. To the extent possible this format should be used. A new sheet should be used for each decision unit, with the name of the decision unit typed under the heading (e.g., Building and Community Systems or Advanced Fuels Research). A brief explanation for each element on the exhibit follows:

(3) **Explanation of Elements in the Exhibit**:

(a) Facility: provide the complete name (e.g., LaPorte Liquid Phase Methanol PDU)

(b) Description/Capability: describe the facility, its purpose, scale (e.g., bench, proof- of-concept), status (e.g., in operation, mothballed) and capability (e.g., 100 tons/day).

(c) Location: City and State and if located at a national lab or ETC, include that also.

(d) Ownership/Title Vested in: list under each heading the appropriate portion(s) of the facility and the land upon which it is built. For example: "DOE owns equipment only/site owned by Air Products." If there are any funds set aside by the Department or anyone else for mothballing, dismantlement, disposal or termination liability, the amount should be shown in parenthesis in tenths of millions under the appropriate heading.

(e) Investment through FYPY: provide the amount invested, both R&D and capital, by Government and Industry.

(f) Funding Support Estimate: provide an estimate of the same information for FYCY, and FYBY.

Department of Energy
FYBY Corporate Review Budget Request
Facilities Summary

Appropriation Title
Organization Title
Decision Unit Title

Facility	Description / Capability	Location	Ownership-Title Vested In		Investment through FYPY ($M)		Funding Support Estimate			
							FYCY		FYBY	
			Gov't Agency	Other	R&D	Capital	R&D	Capital	R&D	Capital
							Indus/Gov't	Indus/Gov't	Indus/Gov't	Indus/Gov't

Figure II-4c
INT Facility Summary

d. Economic Regulatory Administration Major Program Budget Summary. Senate Report 98-578, which accompanied the FY 1985 Interior and Related Agencies Appropriations Act, established a requirement for the Economic Regulatory Administration (ERA) to provide a schedule showing funding, FTEs and major accomplishments for fiscal years PY, CY and BY for each major program division. A sample format of a schedule previously submitted to the Subcommittee staff is shown in Figure II-4d. ERA should prepare this schedule for submission with each year's Congressional budget request. Questions on this matter should be directed to the Budget Operations Division (CR-14), see the POC Matrix for the designated point of contact name and phone number.

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
ECONOMIC REGULATION
(dollars in thousands)

APPROPRIATIONS/FTE'S/ACCOMPLISHMENTS
Economic Regulatory Administration

THE DATA IN THIS EXAMPLE IS FROM THE FY 1991 BUDGET REQUEST. A COMPARABLE SCHEDULE IS TO BE PREPARED FOR THE FYBY BUDGET.

Compliance	FYPY	FYCY	FYBY
o Appropriation	$12,511	$11,674	$10,316
o Full-time Equivalents	128	108	99
o Major Refiner PRO's Issued	1	0	0
o Other PRO's Issued	3	1	0
o Negotiated Settlements (Cases)	49	25-40	25-40
o Administrative Litigation (Cases at start of FY)	93	60	30-35
o Judicial Litigation (Cases at start of FY)	111	81	70-75
o Monitor Remedial and Consent Orders	283	215	175
Program Administration			
o Appropriation	$712	$761	$676
o Full-time Equivalents	10	9	8
Total Appropriation	$13,223	$12,435	$10,992
Total Full-time Equivalents	138	117	107

Figure II-4d
ERA Major Program Budget Summary

e. Natural Gas Program. This reporting requirement is to be prepared by Fossil Energy. The Department has been directed by the Interior and Related Agencies Appropriations Subcommittee staff to include a natural gas program crosscut. Figure II-4e is the format to be used in completing the data for the PY, CY and BY. The Energy Research contact and the Energy Efficiency and Renewable Energy contact should provide input to the lead organization Fossil Energy by the date specified in the FYBY Call. Questions should be directed to the point of contact contained in the Point of Contact Matrix provided at the front of this chapter.

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET REQUEST
NATURAL GAS R&D PROGRAM CROSSCUT
Requested vs. Appropriated for FYPY-FYBY
(Dollars in millions)

PROGRAM SECTORS	TOTAL DOE FYPY FYCY FYBY	TOTAL FE FYPY FYCY FYBY	TOTAL CE FYPY FYCY FYBY	TOTAL ER FYPY FYCY FYBY
Resource and Extraction Appropriated Requested * Conventional Appropriated Requested * Unconventional Appropriated Requested * Enviro/Long Range Res. Appropriated Requested * Other Appropriated Requested				
Delivery and Storage Appropriated Requested				
Utilization Appropriated Requested * Combustion Systems Appropriated Requested * Heat Pumps (heating & cooling) Appropriated Requested * Gas Turbines Appropriated Requested * Natural Gas Vehicles Appropriated Requested * Fuel Cells Appropriated Requested * Gas-to-Liquids Appropriated Requested * Other Appropriated Requested				
Environ. and Regulatory Impact Appropriated Requested				
Total Appropriated Requested				

Figure II-4e
Natural Gas Program Crosscut

f. Estimate of Proprietary Receipts. All organizations with proprietary receipts must submit a receipts estimate for each receipt account for PY through BY+3. Receipt/Collection data for PY should agree with the actuals shown by Departmental Accounting and the Department of Treasury. The Corporate Review Budget receipt estimate should be the best estimate through year-end for PY, through BY+3.

g. Staffing Guidance and Requirements. Staffing resource management and budgeting are entering into a new era of managing to budget. To date the Office of Management and Budget has not provided guidance on how this change will be incorporated into the budget process. More importantly, the Department is committed to achieve its Strategic Alignment Initatives (SAI) staffing targets set in May 1995. The Secretary has reviewed FY 1999 and FY 2000 staffing levels outlined in the SAI. He supports the bottom line totals while reserving judgement on the individual organizational allocations. Until the Secretary acts on changing organizational SAI staffing targets, each organization must decide how to use currently allocated staffing resources efficiently and effectively to meet FY 1999 workloads. All organizations should examine and document internal redeployment opportunities and allocate staffing resources to work on high priority requirements.

Guidance. In order for the Department to meet Strategic Alignment Initiative staffing goals, any staffing increases for an organization for FY 1998 and/or FY 1999 will result in commensurate reductions to other organizations. Therefore, organizations are encouraged to adhere to the SAI staffing targets provided in Attachment 1. If organizations make requests for staffing levels above current Strategic Alignment Initiative allocations they must justify in a clear narrative presentation the factors which contribute to the need for the increased staffing levels. Sufficient information should be provided so as to clearly and fully explain why a given staffing level is needed to assure program accomplishment. Staffing budgets should include quantitative justifications whenever possible to explain the need for additional federal staffing resources and to enhance the credibility of the data.

Attachment 1 has been prepared to align field office SAI staffing allocations with the program organizations who have program direction funding budget responsibilities. Under SAI each field element was given a specific SAI staffing allocation. Any adjustment to a field office staffing allocation must be coordinated with the field office, the Office of Field Management and Human Resources.

Some organizations may have successfully reengineered processes and workloads and have found they can carry out their missions in FY 1998 and FY 1999 with staffing levels below current SAI allocations. Justifications for requests for staffing levels below current SAI allocations are not required; however, a brief explanation is needed.

As in past budget cycles, each headquarters program and staff organization is to prepare a Staffing Summary exhibit to display its staffing levels. The format for this exhibit is attached. Submit completed formats to Tom Wheeler, Office of Personnel Policy and Assistance, Room 4D-035, Forrestal Building, (202) 586-3276, as a part of the total staffing budget submission.

FY 1999 Staffing Targets

	04/22/97					
	Strategic Alignment Initiative Staffing Targets					
		FY 1977	FY 1997	FY 1998	FY 1999	FY2000
Organization / Approp		Current	EOY	EOY	EOY	EOY
Field Management		1,002	1,025	988	983	942
	Headquarters	48	48	48	48	48
	Chicago Operations Ofc	265	267	251	249	239
	Idaho Operations Ofc	128	131	131	129	129
	Oakland Operations Ofc	200	206	197	196	184
	Oak Ridge Operations Ofc	361	373	361	361	342
Chief Financial Officer		211	210	208	198	192
	Dept Admin	208	207	205	195	189
	Nuclear Waste Fund	3	3	3	3	3
Civilian Radioactive Waste Mgt		212	218	195	186	178
	Headquarters	201	195	173	164	156
	CFO	3	3	3	3	3
	Congressional & Public Affairs	0	2	2	2	2
	Human Resources	5	7	7	7	7
	EIA	0	2	1	1	1
	General Counsel	2	4	4	4	4
	Nevada Operations Ofc	0	4	4	4	4
	Richland Operations Ofc	1	1	1	1	1
Congressional/Public/Consumer Affairs		66	68	68	68	68
	Dept Admin	66	66	66	66	66
	Nuclear Waste Fund	0	2	2	2	2
Defense Programs		1,980	1,963	1,895	1,860	1,721
	Headquarters	345	311	268	255	243
	Albuquerque Operations Ofc	1,191	1,207	1,208	1,198	1,093
	Nevada Operations Ofc	276	266	246	236	226
	Oakland OperationsOfc	85	78	75	74	70
	Oak Ridge Operations Ofc	67	67	64	63	55
	Savannah River Operations Ofc	16	34	34	34	34
Economic Impact & Diversity		43	42	42	42	42
Energy Efficiency/Renewable Energy		560	554	524	514	507
	Headquarters	499	487	459	450	443
	Golden Field Ofc	51	53	51	50	50
	Chicago Operations Ofc	4	6	6	6	6
	Idaho Operations Ofc	5	7	7	7	7
	Oak Ridge Operations Ofc	1	1	1	1	1

Figure II-4g.1
SAI/EOY Staffing Targets

FY 1999 Staffing Targets (Cont'd)

Energy Information Administration		418	396	361	348	339
	EIA	418	394	360	347	338
	NWF	0	2	1	1	1
Energy Research		521	524	456	440	432
	Headquarters	296	298	276	266	261
	Field Mgmt	1	0	0	0	0
	Ofc of Scientific & Technical Info	128	130	121	117	116
	Chicago Operations Ofc	70	76	40	40	39
	Oakland operations Ofc	9	9	10	10	9
	Oak Ridge Operations Ofc	17	11	9	7	7
Environmental Management		3,037	2,999	2,900	2,837	2,765
	Headquarters	597	531	488	467	452
	Field Mgmt	1	1	0	0	0
	Albuquerque Operations Ofc	217	250	234	221	222
	Chicago Operations Ofc	79	103	135	137	137
	Idaho Operations Ofc	253	248	239	238	232
	Nevada Operations Ofc	60	61	57	55	52
	Oakland OperationsOfc	71	76	72	71	68
	Oak Ridge Operations Ofc	155	146	137	136	129
	Ohio Field Ofc	231	239	239	239	239
	Richland Operations Ofc	526	541	526	516	494
	Rocky Flats Field Ofc	292	294	293	293	293
	Savannah River Operations Ofc	535	490	461	445	428
	Federal Energy Technology Center	20	19	19	19	19
	Bureau of Mines - non-add	30	29	29	29	29
Environment, Safety & Health		396	410	363	344	330
Fissile Materials Disposition		20	23	25	25	25
Fossil Energy		875	875	853	846	844
	Headquarters	189	172	159	159	157
	Strategic Petroleum Reserve	108	110	108	106	106
	Bartlesville Project Ofc	20	23	22	21	21
	Federal Energy Technology Ctr	510	516	515	511	511
	E.H. Naval Petroleum Reserve	36	43	36	36	36
	Casper Naval Petroleum Reserve	12	11	13	13	13
	Bureau of Mines - non-add	79	85	85	85	85
General Counsel		184	167	180	158	152

Figure II-4g.1
SAI/EOY Staffing Targets

FY 1999 Staffing Targets (Cont'd)

	Dept Admin	163	163	176	154	148
	Economic Regulation	19	0	0	0	0
	Nuclear Waste Fund	2	4	4	4	4
Hearings & Appeals		55	54	49	44	44
	Economic Regulation	50	49	22	17	17
	Other Defense Activities	0	0	22	22	22
	Dept Admin	5	5	5	5	5
Human Resources & Administration		637	630	628	628	628
	Dept Admin	629	621	621	621	621
	Nuclear Waste Fund	5	7	7	7	7
	PCSD	3	2	0	0	0
Inspector General		289	306	272	260	254
Nonproliferation & National Security		420	430	413	375	367
	Headquarters	359	360	345	307	299
	Chicago Operations Ofc	54	62	61	61	61
	Nevada Operations Ofc	7	8	7	7	7
Nuclear Energy		189	187	173	161	154
	Headquarters	132	128	115	109	106
	Albuquerque Operations Ofc	0	1	1	1	1
	Chicago Operations Ofc	11	11	12	11	10
	Idaho Operations Ofc	1	1	1	1	1
	Oakland Operations Ofc	3	3	3	3	3
	Oak Ridge Operations Ofc	37	37	35	30	27
	Richland Operations Ofc	5	6	6	6	6
Naval Reactors		197	209	207	204	201
	Headquarters	53	58	57	57	56
	Pittsburgh Naval Reactors	70	74	73	71	70
	Schnectady Naval Reactors	65	67	67	66	65
	Idaho Operations Ofc	9	10	10	10	10
Office of Secretary		22	23	22	21	20
Quality Mgmt		8	9	9	9	8
Office of Policy		123	121	121	121	121
Sec Energy Advisory Brd		4	5	5	5	5
Worker & Community Transition		27	26	25	24	19
Unallocated		0	73	-68	-48	-49
Centers of Excellence - Savings		0	-26	-23	-23	-23
DOE SAI Sub-TOTAL		11,486	11,503	10,874	10,613	10,269
			FTE	FTEs	FTEs	FTEs

Figure II-4g.1
SAI/EOY Staffing Targets

FY 1999 Staffing Targets (Cont'd)

	Non-SAI Dept of Energy		Allocation	Allocation	Allocation	Allocation
POWER MARKETING ADMINS						
Alaska		8	11	0	0	0
Bonneville		2,932	3,131	2,950	2,755	2,755
Southeastern		41	41	41	39	39
Southwestern		176	193	189	186	186
Western Area		1,258	1,387	1,329	1,329	1,329
PMAs Total		4,415	4,763	4,509	4,309	4,309
Bureau of Mines		109	114	114	114	114
	Pittsburgh, PA - EM	30	29	29	29	29
	Albany, OR - FE	79	85	85	85	85
Technical Leadership Dev Prog		0	49	58	69	57
	DP	0	12	14	18	14
	EE	0	3	4	4	4
	EH	0	1	2	2	2
	EM	0	29	32	39	31
	FE	0	2	3	3	3
	NN	0	2	3	3	3
FERC	x	1,330	1,357	1,377	1,377	1,377
GRAND TOTAL		17,340	17,672	16,818	16,368	16,012

Figure II-4g.1
SAI/EOY Staffing Targets

Staffing request for FY 1999 Budget

ORGANIZATION_____

Appropriation	EMPLOYMENT					FTE'S			
	FY 1997 SAI Allocation	FY 1998 SAI Target	FY 1998 Revised Request	FY 1999 SAI Target	FY 1999 Revised Request	FY 1998 FTE Target	FY 1998 Revised Request	FY 1999 FTE Target	FY 1999 Revised Request
Approrpriation 1									
Headquarters									
Field Location 1									
Field Location 2									
Field Location 3									
Field Location xx									
Total Approp. 1	0	0	0	0	0	0	0	0	0
Approrpriation 2									
Headquarters									
Field Location 1									
Field Location 2									
Field Location 3									
Field Location xx									
Total Approp. 2	0	0	0	0	0	0	0	0	0
Approrpriation 3									
Headquarters									
Field Location 1									
Field Location 2									
Field Location 3									
Field Location xx									
Total Approp. 3	0	0	0	0	0	0	0	0	0
Organization Total	0	0	0	0	0	0	0	0	0

Figure II-4h.2
Staffing Summary

Department of Energy
Streamlining FY 1996 - FY 1999

	FY 1996	FY 1997	FY 1998	FY 1999
Span of Control*				
Employee to Supervisor Ratio				
NPR Target Populations				
Supervisors & Managers				
Personnel Specialists				
Budget Specialists, Accountants & Auditors				
Acquisition Specialists				
GS/GM 14, 15 and Senior Executive Service				

* Organizations are reminded that the Department's employee to supervisor ratio goals are as follows: 11 : 1 | 13 : 1 | 14 : 1 | 15 : 1

Figure II-4g.2
Other Staffing Issues

h. Historically Black Colleges and Universities. Executive Order 12876 requires Federal agencies to submit an estimate of funding to Historically Black Colleges and Universities (HBCU) in conjunction with OMB budget submissions. The Department needs to identify the amount of funding intended for HBCUs. The format to be used in presenting these data is provided in Figure II-4h. Each organization is requested to complete this schedule to the extent possible and provide a point of contact who can clarify questions concerning the data. Organizations with no funding for HBCUs in any of the three budget years should submit a negative response. A copy of all responses should be submitted both to the Office of Economic Impact and Diversity (ED-1) and the Office of Budget with other Corporate Review Budget submission materials. ED will prepare a consolidated estimate for the Department based on program estimates submitted in response to this request. Questions concerning HBCU should be directed to the Office of Economic Impact and Diversity.

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET SUBMISSION
ESTIMATES FOR HISTORICALLY BLACK
COLLEGES AND UNIVERSITIES
ORGANIZATION
(Dollars in thousands)

Appropriation/Decision Unit	Name of HBCU (if known)	FYPY BA	FYCY BA	FYBY BA Request
ESR&D				
1.Solar	University X College Y	$	$	$
Subtotal, Solar		----	----	----
2.(Decision Unit #2)	(to be determined)	$	$	$
Subtotal, Decision Unit #2		----	----	----
Subtotal, ESR&D, Appropriation		$	$	$
Total, A/S for		$	$	$

Comments:

Program Contact:
Name: _____
Telephone: _____

Figure II-4h
Estimates for Historically Black
Colleges and Universities

i. Administrative Support Costs. House Report 102-116 accompanying the FY 1992 Department of Interior and Related Agencies Appropriation Bill requires programs that are assessed for administrative expenses (i.e., computer timesharing and other housekeeping functions) to separately identify those costs in their budget submissions. This requirement applies to the Economic Regulatory Administration, Energy Information Administration, the Office of Hearing and Appeals, and the Interior funded portion of the Office of Intelligence and National Security (IS). These costs should be identified in Part III of the program Performance Summary. Questions regarding this requirement should be directed to the Conservation, Administration and Regulation Team (CR-14). See the Point of Contact Matrix provided at the front of this chapter for point of contact name and phone number.

j. Carryover Balances. As a reminder, Assistant Secretary/Directors of Program Organizations are responsible for ensuring that all carryover balances have been reviewed and used, as appropriate, as potential funding sources to offset new budget authority requirements in their Corporate Review Budget Submission. Carryover balances are the total of unobligated and uncosted balances carried over into the budget year.

k. Naval Petroleum & Oil Shale Reserve Production/Revenue Report. The Production/Revenue report is to be submitted with the Naval Petroleum and Oil Shale Reserve Summary Submission materials. Provide the assumptions used to support the revenues in the report.

DEPARTMENT OF ENERGY
FYBY CORPORATE REVIEW BUDGET SUBMISSION
NAVAL PETROLEUM AND OIL SHALE RESERVES
PROJECTED FEDERAL REVENUES
(Dollars in Thousands)

Date: _____
Level: _____

	FYPY			FYCY			FYBY		
	Production	Price	Revenues	Production	Price	Revenues	Production	Price	Revenues
NPR-1									
Crude Oil (BOPD)		$	$		$	$		$	$
Natural Gas (MCFPD)		$	$		$	$		$	$
Liquid Products (GPD)		$	$		$	$		$	$
Miscellaneous			$			$			$
Subtotal, NPR-1			$			$			$
NPR-3									
Crude Oil (BOPD)		$	$		$	$		$	$
Liquid Products (GPD)		$	$		$	$		$	$
Subtotal, NPR-3			$			$			$
NAVAL OIL SHALE RESERVES									
Natural Gas (MCFPD)		$	$		$	$		$	$
TOTAL NPOSR			$			$			$

	FYBY+1			FYBY+2			FYBY+3		
	Production	Price	Revenues	Production	Price	Revenues	Production	Price	Revenues
NPR-1									
Crude Oil (BOPD)		$	$		$	$		$	$
Natural Gas (MCFPD)		$	$		$	$		$	$
Liquid Products (GPD)		$	$		$	$		$	$
Miscellaneous			$			$			$
Subtotal, NPR-1			$			$			$
NPR-3									
Crude Oil (BOPD)		$	$		$	$		$	$
Liquid Products (GPD)		$	$		$	$		$	$
Subtotal, NPR-3			$			$			$
NAVAL OIL SHALE RESERVES									
Natural Gas (MCFPD)		$	$		$	$		$	$
TOTAL NPOSR			$			$			$

Figure II-4k
Naval Petroleum and Oil Shale Reserve Production/Revenue Report

l. Secretary's Reportable Problems under Federal Managers' Financial Integrity Act (FMFIA). Schedules of the budget estimates for correcting the Secretary's FMFIA Reportable Problems should be submitted with the Department's budget request. The primary purpose of these schedules is to ensure that the Department has linked the budget to its Federal Managers' Financial Integrity Act (FMFIA) process and has requested sufficient resources to address needed corrective actions identified through the Department's Management Control Program and reported in the Secretary's FY 1996 FMFIA Report to the President and the Congress.

(1) Headquarters Organizations that are responsible for implementing the corrective actions must develop budget schedules to document the funding needed. Schedules should include applicable funding data related to (a) program size, where applicable and (b) the management investment needed to correct each Secretarial FMFIA reportable problem as described in detailed action plans contained in the Secretary's FY 1996 FMFIA Report to the President. As indicated in several of the reportable problems, the program size data may be provided by CFO and the cognizant offices will need only to provide the management funding data.

(2) For purposes of identifying the areas of the budget to include in the FMFIA Reportable Problems schedules, the following definitions are to be used:

(a) **Environmental Compliance**. The program size is defined as the environmental liability associated with EM's ten year plan and will be included by CFO in the financial statements. The management investment is defined as the entire EM budget except funding related to WIPP.

(b) **Safety and Health**. The program size will be defined by EH using data from the Department's consolidated safety and health 5-year plan. The management investment is defined as that portion of EH's budget related to nuclear and nonnuclear safety oversight and policy development.

(c) **Nuclear Waste Storage and Disposal**. The program size is defined as RW's total estimated cost for establishing a permanent waste disposal repository and EM's total estimated cost related to making WIPP operational. The management investment is defined as RW's entire budget and that portion of EM's budget related to WIPP.

(d) **Contract/Project Management**. The program size will be identified by the Assistant Secretary for Human Resources and Administration as the total cost of the Department's legally binding contractual agreements with M&O contractors, ERMCs, and management integrating contractors. The management investment is defined as that portion of

HR's budget that relates to conducting contract administration and FM's portion of the budget that relates to implementing project management initiatives and performing the Business Management Oversight Process.

(e) **Strategic Petroleum Reserve**. The program size is defined as the value of the petroleum reserves included in the Department's financial statements and will be provided by CR. The management investment is defined as the cost of decommissioning the Weeks Island Mine and relocating inventory to other storage facilities and degasifying and cooling other storage caverns at Bayou Choctaw, Big Hill, Bryan Mound, and West Hackberry.

(f) **Material Inventory Management**. The program size will be defined by CFO as the book value of the Department's nuclear and nonnuclear materials as provided in the Department's financial statements. The management investment is defined as MD's entire budget, that portion of WT's budget that relates to asset sales and management, that portion of EM's budget that relates to the Material Inventory project, that portion of NN's and CFO's budget that relates to managing inventory systems, such as the Nuclear Materials Management and Safeguards System (NMMSS) and the Department's Inventory Management System (DIMS), and those portions of DP's and NE's budgets that relate to achieving the proper storage and disposition of excess nuclear and nonnuclear materials.

(g) **Property Controls**. The program size will be defined by CFO as the total value of the Department's personal property included in the financial statements. The management investment is defined as that portion of HR's budget that relates to issuing improved personal property management policy as a Final Rule in the Federal Register and conducting validations of contractor self-assessments and for cause reviews of personal property as part of the Business Management Oversight Process.

(h) **Infrastructure**. The program size will be defined by CFO as the total value of the Department's infrastructure (nonnuclear buildings, utilities, other structures, roads, railroads, bridges, dams, and warehouses) included in the financial statements. The management investment is defined as that portion of FM's budget that relates to establishing a Department-wide infrastructure replacement plan.

(i) **Inadequate Audit Coverage**. The program size is defined as the entire IG budget and that portion of HR's budget related to contracting audit services. The management investment is defined as that portion of the

IG's budget that relates to performing M&O contractor audits at an acceptable level under the New Cooperative Audit Strategy and that portion of HR's budget that relates to ensuring that the cognizant audit agency performs audits of non-M&O contractors.

(j) **Financial Management Systems**. The program size will be defined by CFO and HR as the total value associated with the Department's initiative to develop and implement a Management Information System (MIS) that meets the needs of managers and the Standard General Ledger at the transaction level. The management investment is defined as that portion of the CFO's and HR's budget that relates to implementing a Department-wide Management Information System that meets requirements of OMB, program managers and other customers for financial and program performance.

(3) The format shown in Figure II-4l should be used to prepare the FMFIA Reportable Problems supplementary schedules. Questions related to the FMFIA Reportable Problems should be directed to the Office of Program Liaison and Financial Analysis.

DEPARTMENT OF ENERGY
FYBY OMB BUDGET REQUEST
SCHEDULE OF CORRECTIVE ACTIONS FOR FMFIA REPORTABLE PROBLEMS
(In Thousands of Dollars)

FMFIA Reportable Problem:_____

Departmental Element:_____

Point of Contact:_____

ACCOUNTS	FYPY Actual BA		FYCY Estimate		FYBY Estimate	
	Program Size	Management Investment	Program Size	Management Investment	Program Size	Management Investment
89X0200.91 (Example) 89X0220.40 (Example)						
Total						

Figure II-4l
FMFIA Reportable Problems

m. Planning, Budgeting and Acquisition for Fixed Assets. The Office of Management and Budget Circular A-11 Part 3, Planning, Budgeting and Acquisition of Fixed Assets requies all agencies fully fund their fixed asset acquistion and submit this information with their annual OMB budget request each September.

During the initial implementation period of this policy, OMB is allowing for "phased funding" or funding by project stages. For example, a construction project could first receive full, upfront funding for the planning stage and later receive full funding for the construction stage. In addition, projects with full funding will be placed in separate accounts from the operating budgets and into three new construction accounts in the following functional areas: 250, 270, 053. The Department is are required to provide the following information related to the acquisition of fixed assets as part of their OMB budget submission:

(1) Information on the impact of full funding of fixed assets now funded incrementally. This will allow for an identification of additional budget authority needed to fully fund accounts with these projects.

(2) Performance, cost, and schedule baseline data for capital funded construction projects will be reported for all new and existing projects with uncosted (TEC) balances as of the end of the current fiscal year that are greater than $10 million. Guidance for completing this information will be made available in the FY 1999 OMB Budget Call if not sooner.

For the Corporate Review Budget process, programs should be mindful that acquisition planning is to be part of the budget and strategic planning process. Contingencies and anticipated mission, policy, funding, and technology changes should be included in the development of acquisition strategies.

n. Cost-Benefit Certification Requested for New Construction. Every DOE program should ensure that its existing facilities are being used effectively. In some cases, existing facilities can be used to fulfill new mission needs rather than constructing new facilities to fulfill those needs. No new construction starts should be included in the FYBY Corporate Review Budget submittal unless they are justified on the basis of cost-benefit studies that consider the use of existing facilities as alternative solutions to fulfilling the mission needs. As justification for proposed new construction projects, Program Secretarial Officers are requested to certify by means of the attached certification form (see Figure II-4o), that cost-benefit studies have been completed and that no existing facilities within DOE can meet the respective mission needs more efficiently and effectively. Questions should be directed to the point of contact identified in the Point of Contact Matrix at the front of this chapter.

Cost-Benefit Studies for Proposed New Construction Projects

DOE Program:_____

Project Title/Number:	Decision Unit:	TEC/TPC*:	Date of Cost-Benefit Study:

* Total Estimated Cost/Total Project Cost, in thousands

Certification:

I certify that the Cost-Benefit Study(ies) completed in connection with the above construction project(s) indicate(s) that no existing facilities within the Department of Energy can meet the mission need more efficiently and effectively.

_____

Program Secretarial Officer

Figure II-4o
Cost-Benefit Certification for New Construction

5. **CROSSCUT DOCUMENTS**. Crosscut data is generally prepared at the specific request of the various subcommittees. Several of these are prepared on a recurring basis and are discussed below. Others are prepared only on a one-time basis to meet a specific and short-term need. These will be identified as the need arises in the call letter. Crosscut analyses will be prepared to consolidate related functions that are being funded within the Department of Energy in several different areas. While these analyses are prepared during previous phases of the budget process, it is necessary to update them to reflect final Presidential allowances. Any questions concerning the preparation and content of these tables should be directed to the appropriate point of contact as indicated in the Point of Contact (POC) Matrix provided at the front of this chapter.

a. Environment, Safety and Health Crosscut.

(1) The ES&H Management Process provides the structured management process and tools that will allow DOE to discern the ES&H aspects of all of its business lines. The ES&H Management Planning Process provides the vehicle by which ES&H priorities can be established and by which budgets for ES&H activities can be developed as an integral part of each activity funded by the Department of Energy. The resultant Plans are the mechanism for communication of these management decisions to budget process stakeholders..

(2) The review of planned ES&H programs, the integration of ES&H planning into overall program planning, and the analysis of ES&H budget requests is a formal part of the Department's Planning-Based Budget Process. To support this review and budget analysis, Cognizant Secretarial Offices (CSOs) shall submit the following information to CR-13 and the Office of Business Performance Systems (EH-73) of the Departmental Budget submission materials:

(a) Proposed ES&H Budgets including those ES&H activities submitted by the field and Operations Offices through the Field Budget Call process, and any Headquarters program ES&H budget information. This should be submitted electronically for Activity Data Sheets by rollup diskettes using the ES&H Management Plan Information System. Specific directions on the information system requirements for the ES&H budget data submission are as follows:

1 Except where other official reporting mechanisms have been approved, the ES&H Management Plan Information System shall be used to report target level ES&H budgets, i.e., all safety and health activities and environmental activities, whether funded by direct or indirect funds by all Cognizant Secretarial Officers. Activity Data Sheets prepared using the ES&H Management

Information System and submitted to the Cognizant Secretarial Officers (CSOs) by the Field through the Operations/ Field Offices shall have been prepared and prioritized in accordance with guidance provided in the ES&H Budget Formulation FY 1999 Guidance, dated January 1997. Activity Data Sheets describing the Headquarters Program ES&H resource requirements of the Cognizant Secretarial Officer (CSO) (except EM) shall also be prepared using the guidance provided in the ES&H Budget Formulation FY 1999 Guidance.

2 Where a CSO has reached agreement with EH to use other ES&H reporting mechnisms, environment, safety and health funding activity data should be submitted electronically to CR-13 and EH-73 directly from the CSO database that is compatible with DOE's ES&H Management Plan Information System. (Compatibility must have be verified with EH.) To ensure departmental reporting needs can be met, the CSO database must provide data for each of the "required" data fields in the ES&H Management Plan Information System (See the ES&H ADS Instructions in Appendix A of the ES&H Budget Formulation FY 1999 Guidance for the required fields.) Once received electronically, EH will transfer this information into ES&H Activity Data Sheets in the ES&H Management Information System. Any ES&H Activity Data submitted by another reporting mechanism should be prepared and prioritized consistent with the guidance provided in the ES&H Budget Formulation Plan Guidance for FY 1999.

(b) Consolidated Summary Report of ES&H Management Plan risk management conclusions and budget analysis information. This information was provided to the Landlord CSOs and appropriate CSOs providing direct funding for ES&H activities by the Operations Offices for each site within their purview. CSOs should review and revise the summary information and conclusions submitted by each Operations Office from the site ES&H Management Plans to reflect their own program emphasis as reflected in their proposed ES&H budget. This supplementary submission material is comprised of summary level ES&H financial information, and a synopsis of key risk management conclusions and budget analysis information. The following describes the information which should be provided in this consolidated summary from the ES&H Management Plan:

1 *Summary ES&H Financial Information*.

a Total direct ES&H costs broken down by Resource Structure Code or Budget and Reporting (B&R) Code and category of funding (i.e., operating, capital equipment, General Plant Project, or Line Item) for FY-PY through FY-BY.

b Total allocated ES&H costs broken down by the Resource Structure Codes to which the costs have been allocated for FY-PY through FY-BY.

c Annual direct and allocable funding levels for each of the ES&H functional areas from FY-PY through FY-BY. Significant increases or decreases in any functional area should be explained. The ES&H functional areas are defined in the Department's ES&H Budget Formulation FY 1999 Guidance.

Note: Each of these summary cost reports is a standard output report that can be produced directly from the ES&H Management Plan Information System software provided by the Office of Environment, Safety, and Health to support the preparation of ES&H Management Plans.

2 *Important Risk Management Conclusions.*

a Identification of the most important ES&H risk management issues being addressed at the facility within the current budget targets. (This list should not be a compendium of ES&H issues, but should focus on the two or three most significant risk issues confronting the facility based on projected missions and available funds).

b Identification of any significant ES&H risks that were not or will not be adequately addressed at the requested level because of budgetary constraints. Identify administrative or other compensatory measures planned to address these risks. Identify any future, increased costs that may result if these risks are not addressed during the budget year.

c List of the highest ranking ES&H activities not within the requested budget (i.e., the most important candidates for funding should additional resources become available).

d Identification of any activities not within the requested budget that are needed to address emerging ES&H issues, or important areas defined in the strategic guidance provided by the Secretary, the Office of Environment, Safety, and Health,

or the responsible Secretarial Offices. The risks associated with not funding these activities should be clearly articulated.

e Identification of any additional activities that represent good financial investments in risk management and accident prevention.

3 *Budget Analysis Support Information*.

a Identification of the major planning assumptions related to changes in facility programs and mission.

b Identification of the bases and major assumptions used in deriving ES&H funding targets.

c Description of the impact on ES&H programs of a 15 percent reduction in total site budget, or the difference between target and decrement levels as defined by the CSO, whichever is greater. Identify the specific programs that would be impacted and the increases in risk that would be expected.

d For sites where there are major uncertainties in programmatic funding (i.e., the termination or initiation of a major project), provide a description of the impact of that potential change on ES&H programs and funding.

The summary cost tables, risk management conclusions, and budget analysis information should have been prepared by each operating organization for their site, and provided to the Landlord CSO through the Operations Office (or responsible DOE Organization).

(c) Secretarial Office financial managers should ensure consistency between the financial information supplied in the ES&H Management Plan information (or other approved system) and summary cost tables described above and the primary budget submission materials comprising the CSOs Budget Submission package.

(3) As part of the Corporate Review Budget, the Office of Environment, Safety and Health will review the ES&H Budgets and summary ES&H Management Plan risk management conclusions and budget analysis information submitted by each Cognizant Secretarial Office. In addition to evaluation of the information provided, the review will also seek to answer the following questions:

(a) What ES&H issues are “falling through the cracks” as a result of transition?

(b) What are the major unfunded vulnerabilities (e.g., highly enriched uranium, plutonium, spent fuel, chemicals, DNFSB Issues, downsizing/skill mix issues)?

(c) Are there potential tradeoffs with the ES&H budget, i.e., can the Department better optimize from a risk reduction standpoint.

(d) Are we slashing ES&H investments as a result of budget reductions (e.g., waste minimization)?

(4) Following the Corporate Review Budget, the ES&H information will be updated to reflect budget decisions and be used to prepare required reports to external organizations, specifically the ES&H Crosscuts for the Department’s OMB and Congressional Budget Submissions, the annual FEDPLAN (formerly A-106) and OMB Circular A-11 Reports to the Environmental Protection Agency (EPA) and OMB, and the annual update to the Waste Minimization and Pollution Prevention Crosscut Plan (to EM).

(5) Complete guidance and instructions for preparation of the ES&H Management Plan is provided in the Department’s ES&H Budget Formulation FY 1999 Guidance Document. Copies of the ES&H Budget Formulation FY 1999 Guidance Document can be obtained electronically from the ES&H Management Plan Website at "http://www.eh.doe.gov/bps/eshplan.html" or by contacting Ray Blowitski, EH-73 at 3-9878.

b. Safeguards and Security Crosscut.

(1) This section provides program safeguards and security reporting guidance for the FY 1999 Corporate Review Budget process.

(2) Detailed safeguards and security data is submitted each spring by operations and field offices and their reporting facilities to NN-50, and concurrently to the program offices in response to the Unified Field Budget Call issued by the Chief Financial Officer in January. The Office of Security Affairs will provide the program offices a copy of the FY 1999 Safeguards and Security Crosscut estimates as developed and submitted by the field during the FY 1999 Field Budget process (as amended by NN-50). **Programs must assure that their final markups, *WITH A BRIEF EXPLANATION FOR ANY CHANGES*, are provided in accordance with Attachment B, Calendar of Events, to NN-513.2 (estimated to be June 13, 1997 as of this writing).** Questions may be directed to Karen Stewart (301/903-9934) or Alice King (301/903-8782).

(3) **Definitions**.

(a) **Operating Expenses**. Operating expenses are normally used to budget for operational activities and includes such items as labor, travel, training, and small dollar items which are not intended to be capitalized (i.e., less than $25,000 and a useful life of less than two years).

(b) **Program Management**: (FORMERLY S&S PROGRAM DIRECTION) Includes all personnel and operating costs for planning; professional development and training; inspections, surveys or assessments; test and evaluation; resource planning and implementation for S&S; policy oversight; management and administration; responses to management requests and foreign ownership, control or influence (FOCI).

1 *Planning* -includes personnel and operating expenses associated with such efforts as: development and implementation of S&S plans, procedures and actions to accomplish S&S policy requirements; the development, management and oversight of an acceptance and validation testing and evaluation (T&E) program and related documentation; the development and management of a FOCI program, monitoring and notifications; development of S&S estimates, S&S financial data, and S&S cost data to reply to information requests from the Office of Safeguards and Security, inspector general (IG), Security Evaluations (SE), General Accounting Office (GAO), Congress, and special ad hoc groups; S&S resource review and bench marking recommendations.

2 *Professional Training and Development* - includes personnel and operating expenses associated with such efforts as: the establishment, maintenance, direction, support and assessment of a S&S training program which satisfies DOE-established policies; the certification and approval of the S&S training program; the development, management and maintenance of an S&S training records management system; the training of personnel to perform tasks associated with their duties, and qualification and/or certification of personnel before assignment of S&S responsibilities.

3 *Policy Oversight and Administration* -includes personnel and operating expenses associated with such efforts as: the effective management, direction and oversight of S&S organizational activities, policies and guidance to assure implementation of S&S requirements; inspections, surveys, or assessments to determine the status of the S&S program and to evaluate its effectiveness; development and management of a facility survey and approval program, facility pre-survey planning or scheduling; verification of the acceptability

and validity of existing facility approval status; granting new facility approval; terminating facility approval; maintenance of facility data and approval records; identification, tracking and closure of findings or deficiencies noted during inspections, pre-surveys, surveys or assessments; development of reports to identify S&S program deficiencies, status and corrective actions.

(C) **Protective Forces**: Includes all personnel and operating costs associated with Protective Forces to include but not limited to salaries, overtime, benefits, materials and supplies; equipment and facilities; vehicles; helicopters; training; communication equipment and management. The subcategories are described below.

1 *Salary, Wages and Benefits* -includes salary, overtime, and benefits for uniformed protective forces and other protective force administrative and support personnel funded by safeguards and security.

2 *Materials and Supplies* -includes all personnel and operating expenses associated with the availability of protective force materials and supplies such as: uniforms; normal contractor operating materials and supplies; the conduct and management of inspections, storage and inventory of materials and supplies; development and management of inventory or material and supply tracking systems and development, revision and management of status reports.

3 *Equipment and Facilities* -includes personnel and operating expenses associated with such efforts as: availability and management of protective force equipment (weapons, explosives, ammunition, chemical agents, protective masks, tactical vests, handcuffs, flashlight or other individual, special purpose or duty equipment) and facilities; communication equipment (radios, telephones, etc.); vehicles, and the mandatory equipment to be included with each vehicle including specialized equipment such as snow and watercraft; security force helicopter operations; conduct and management of inspections of equipment and facilities; storage and inventory of equipment; development and management of inventory or equipment tracking systems and development, revision and management of status reports.

4 *Protective Force Training* -includes personnel and operating expenses associated with such efforts as: the development and management of a formal training program for uniformed and other protective

force, administrative and support personnel; development of training-needs analysis; development and implementation of training plans and courses for uniformed, administrative and support personnel; training of uniformed, administrative and support personnel to perform tasks associated with their duties (job task analysis), and the conduct of training exercises for uniformed protective force personnel.

5 *Protective Force Management* - includes personnel and operating expenses associated with such efforts as: protective force planning; development and management of manuals, orders and plans to implement old and new DOE 5632 series orders; development and administration of management systems, procedures, support tasks, and status reporting for the protective force program; examination of protective force personnel, equipment, weapons, vehicles, facilities and other protective force aspects to determine the effectiveness of the protective force.

(d) **Physical Security Protection Systems**: Includes all personnel and operating costs associated with such efforts as: performance testing, intrusion detection and assessment; barrier/secure storage, and entry control/access controls. The subcategories are described below.

1 *Performance Testing* -includes personnel and operating expenses associated with such efforts as: the examination and testing of physical security systems to ensure their effectiveness and operability.

2 *Intrusion Detection and Assessment* - includes personnel and operating expenses associated with such efforts as: the implementation and maintenance of intrusion detection systems (i.e., reporting equipment, alarms, CCTV, sensors, line supervision, alarm management and processing center, protective lighting, voice communications, etc.) as required by DOE orders; assessment of the reliability, accuracy, timeliness and effectiveness of intrusion detection systems and development and reporting of intrusion alarm reports as required by DOE orders.

3 *Barrier/Secure Storage/locks* - includes personnel and operating expenses associated with such efforts as: the implementation and maintenance of physical barriers (i.e., fabricated or natural impediments); to restrict, limit, delay or deny entry into a designated area; the use of locking devices to delay entry, and secure storage used to protect classified matter while in storage.

4 *Entry Control/Access Controls* -includes personnel and operating expenses associated with such efforts as: the implementation and maintenance of a badge system, and access control systems to ensure that persons entering/leaving facilities are authorized, and that they do not introduce prohibited articles into or remove Government property from Departmental facilities in accordance with DOE orders and local directives.

5 *Vital Components and Tamper-safe Monitoring* -includes personnel and operating expenses associated with such efforts as: the monitoring of tamper-indicating devices and alarms (i.e., found on containers, doors, fences), but does not include those TIDs associated with the MC&A program, which reveals violations of containment integrity and posting and monitoring of anti-tamper warnings or signs as specified in DOE orders.

(e) **Transportation**: All security-related transportation costs for transport of special nuclear materials (including safe havens), weapons, and other classified material. Includes personnel costs (salaries, wages, benefits and training), and equipment costs, such as maintenance, facilities, security upgrades to vehicles, and communications.

(f) **Information Security**: Includes all personnel, operating and equipment costs associated with classified documents and material, classification/declassification, unclassified controlled nuclear information, security infractions, automated information systems security, technical surveillance countermeasures, and operations security. The subcategories are described below.

1 *Information Protection* -includes all personnel and operating costs associated with the protection of classified and sensitive unclassified information.

2 *Information assurance* (FORMERLY AUTOMATED INFORMATION SYSTEMS (AIS) SECURITY) -includes all personnel and operating costs associated with programs directed at protecting traditional and non-traditional automated information systems (AIS) that either process sensitive unclassified and classified information or are critical to facility operations from traditional and Information Warfare threats (both internal and external adversaries). Traditional AISs include standalone PCS, network-based Local Area Network/Wide Area Network (LAN/WAN) systems, micro-, mini-, mainframe-, and

super-computers. Non-traditional AISs include automated process control systems; fire, criticality, and security alarm systems; telephone and network switching systems (i.e., Asynchronized Transfer Mode (ATM) and Frame Relay); electrical power distribution control systems; oil and gas distribution control systems; and other Systems Control and Data Acquisition (SCADA)-type systems. All security-related costs associated with site-wide and complex-wide network management, Internet access, data integrity and transmission security (i.e., encryption, public key infrastructure, digital signature, etc.) training and education, and incident management should be included.

3 *Technical Surveillance Countermeasures* -includes all personnel and operating costs associated with technical surveillance countermeasures.

4 *Operations Security* -includes all personnel and operating costs, and training materials, associated with the operations security (OPSEC) program, such as the OPSEC organization, program planning, and program conduct.

(g) **Personnel Security**: Includes all costs for clearance program, initial investigations, reinvestigations, adjudication, security education, visitor control, Personnel Security Assurance Program, psychological/medical assessments (including the Accelerated Access Authorization Program), national agency checks, and administrative review costs. The subcategories are described below.

1 *Clearance Program* -includes the personnel and operating costs for such activities as Personnel Security Assurance Program; adjudications: screening and analysis of personnel security cases for determining eligibility for access authorizations; national agency checks; and handling Freedom of Information (FOI) and Privacy Act requests.

2 *Initial Investigations* -includes the personnel and operating costs associated with such activities as reviewing the Questionnaire for Sensitive Positions (SF-86), initial screenings, Central Personnel Clearance Index (CPCI) updates, and the Accelerated Access Authorization Program (AAAP).

3 *Reinvestigations* -includes the personnel and operating costs associated with recurring investigations for DOE, contractor, and subcontractor personnel.

4 *Security Awareness Program* -includes the personnel and operating cost of establishing and maintaining security education and awareness programs for DOE and DOE contractor employees.

5 *Visit Control* -includes the personnel and operating costs associated with classified visits as well as unclassified visits and assignments by foreign nationals.

(h) **Material Control & Accountability (MC&A)**: includes all personnel and operating costs associated with control and accountability of special nuclear materials, nuclear weapons, test devices, and weapons components and parts. Includes MC&A access areas, surveillance, containment, detection, assessment, testing, transfers, verifications and measurements, inventories, reconciliation, and statistical analysis. The subcategories are defined below.

1 *Material Control* -includes the personnel and operating costs associated with material access, data and equipment, material surveillance, material containment, and detection/assessment of those items listed in 3.b.(1)(g) above.

2 *Material Accountability* -includes the personnel and operating costs associated with accounting systems, inventories, measurements and measurement control, material transfers, and tamper indicating devices associated with the material accountability program.

(I) **Research & Development**: Includes all personnel and operating costs incurred through research and/or the systematic development of technologies for use in Physical Security, Material Control and Accounting, Information Security, and Personnel Security. This would encompass any activities that are required for a technology to progress from basic research to full scale development and the technology transfer of a product to a commercial vendor, to include any modification of proven technologies to satisfy safeguards and security requirements.

(j) **Capital Equipment**. In general, capital equipment may be funded out of operating expenses, capital equipment or construction funds. Operating funds are normally used to budget for operational activities and small dollar items which are not intended to be capitalized. These items are valued at less than $25,000 and have a useful life of less than two years. The capital equipment budget category includes capital equipment not related to construction that has a value of $25,000 or more and has a useful life of two years or more.

(k) **Construction**. Projects requiring construction of a structure or facility having a useful life of two years or more are funded out of capital funds in either a line-item project, or in a general plant project (GPP) if under the Congressional limitation for GPP projects (currently $2 million).

c. Information Management Crosscut.

(1) The Chief Information Officer (CIO) will participate in the Chief Financial Officer's Budget Briefings prior to final Office of Management and Budget submission, as well as in the Secretarial briefing on the OMB Budget.

(2) Beginning in FY 1998, DOE must implement a Capital Planning and Information Technology (IT) Investment Process as outlined in the Clinger-Cohen Act (formerly known as the Information Technology Management Reform Act) of 1996. The process must be a valid, repeatable process that the agency uses to make its IT investment decisions. It must include the use of IT Investment Boards who manage IT investments as a portfolio using definable criteria for making those investment decisions. The process must be integrated with the budget process and the capital asset planning process of the agency. Additionally, IT investments must address the following criteria established by the Office of Management and Budget:

- The investment supports DOE missions
- No alternative can efficiently support the function
- The investment supports work processes that have been reengineered
- The return on investment is better than other use of funds
- The investment supports the DOEwide information architecture
- The use of custom-designed components is minimized and commercial-off-the-shelf products maximized.
- Implementation is modularized
- The acquisition strategy is effective and efficient.

(3) There are two Departmental processes that currently have been identified to which the Capital Planning and IT Investment Process apply. First are those IT investments that are embedded in field work packets, i.e., Field Work Proposals (FWP) and Activity Data Sheets (ADS). Second, are the major items of equipment (MIE) which are reported by sites as part of their major capital assets. The Office of the Chief

Information Officer (CIO) will work with Programs offices in facilitating the evaluation of IT proposals in the aforementioned processes. In addition, processes for evaluating and selecting IT infrastructure projects and systems at the program and corporate level will be established. At the program level, the CIO will assist program offices and at the corporate level it will be implemented through the Executive Committee for Information Management.